BUTANE-PROPANE News

Headquarters for L.P. gas Information Since 1931

MARCH 1955

STACK TECHNOLOGY

Now Is The Time To Sell LPG For Flaming

FIFTY CENTS PER COPY

What's Inside A Rockwell LP-Gas Meter?

THE FINEST IN ENGINEERING AND CONSTRUCTION FOR ACCURATE, LONG LASTING MEASUREMENT

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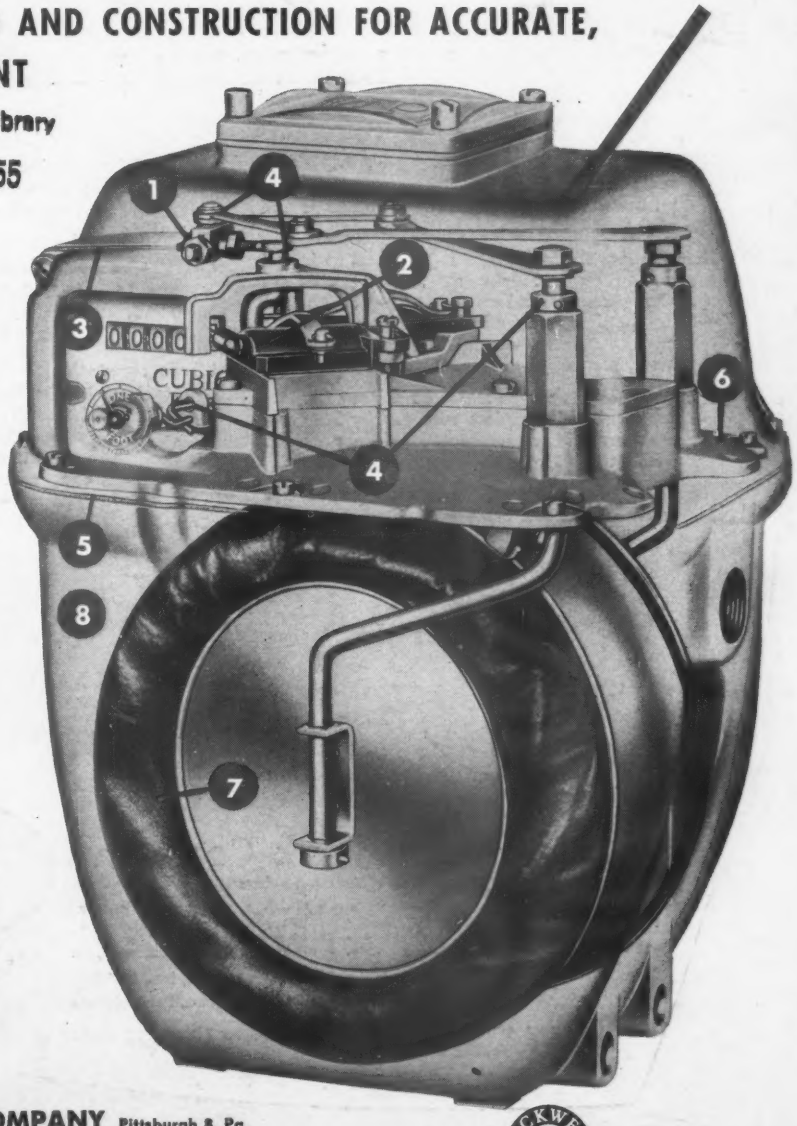
All These QUALITY FEATURES



1—**Tangent,**
adjustable through plate area in cover.

2—**Valves,**
of lightweight, long-wearing Bakelite.

3—**Index,**
either straight reading or circular reading types.

4—**Oil Impregnated Powdered Bronze Bushings,**
at every bearing point.

5—**Single Joint Construction,**
minimizes leakage risks.

6—**Interchangeable Valve Plate,**
simplifies maintenance.

7—**Diaphragm,**
of imported sheepskin (synthetic optional).

8—**Outer Case,**
of strong, corrosion resistant aluminum alloy.

You will measure better, serve better and profit more when you offer "city-type" gas service to your customers using Rockwell LP-gas meters. Get full facts today by writing for catalog and price list.

ROCKWELL MANUFACTURING COMPANY Pittsburgh 8, Pa.

Atlanta Boston Charlotte Chicago Dallas Houston Los Angeles Midland, Texas
N. Kansas City, Mo. New York Philadelphia Pittsburgh San Francisco Seattle Shreveport Tulsa

YOU CAN RELY ROCKWELL ON ROCKWELL

When you ask yourself about LP-Gas systems, you may come up with...

QUESTIONS LIKE THESE:

Will they be easy to service? Hackney LP-Gas Systems are designed for fast, easy servicing—with fittings mounted on the shoulder or end of the tank.

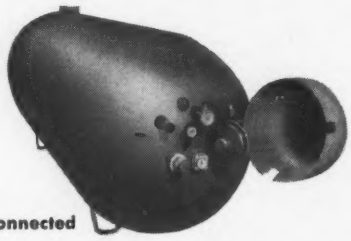
How are they for looks? You'll be proud to install good-looking Hackney Systems. Welds are always smooth and uniform. One-piece streamlined domes harmonize with tank contours... have no seams where rust can start...are extra heavy for complete valve protection.

Are they ready to use on arrival? Hackney Systems are furnished complete with quality fittings—are thoroughly cleaned and dried—are painted with a tough, long-lasting coating.

Have they been fully tested? Hackney Systems are made in full accordance with ASME codes and NBFU regulations—are listed by UL. Welds are X-ray controlled for soundness and uniformity. Carefully inspected. Hydrostatically tested.

Can I get just the size I need? Hackney standard sizes are 250, 499, 640, 855, 995, 1135, 1199, 1745, 2550 and 3360 gallons. Can also furnish other sizes to meet your needs.

Whose reputation stands behind these systems? Hackney LP-Gas Systems are another product of Pressed Steel Tank Company—makers of famous Hackney LP-Gas cylinders. They're designed and built to meet your needs for long-lasting, easy-to-service, economical-to-maintain systems. Write for further details.



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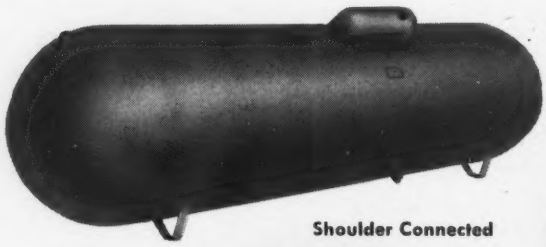

Shoulder Connected

Pressed Steel Tank Company

Manufacturer of Hackney Products

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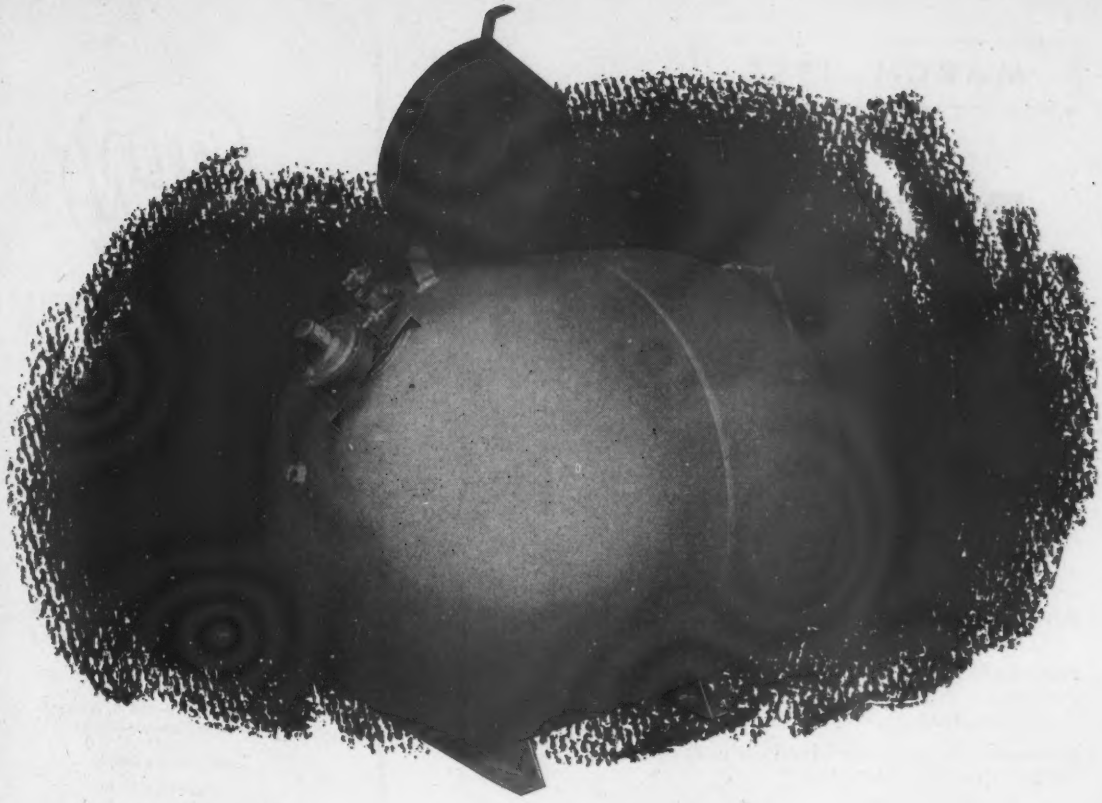
18 W. 43rd St., Room 13, Kansas City 11, Mo. • 138 Wallace Ave., Downingtown, Pa.

Downingtown Iron Works, Inc., Division,
Downingtown, Pennsylvania

Hackney MILWAUKEE

DOWNINGTOWN IRON WORKS

LP-GAS CONTAINERS FROM ONE POUND TO 30,000 GALLONS



Everything but the *squeal*
in an ANCO "Pig"

Here's a cylinder engineered for safety . . . designed for convenience . . . and priced for economy. The ANCO PIG has everything!

Easily accessible fittings make it easy to service. And a tamper-proof, deep-drawn dome covers the fittings, providing complete protection.

In addition to a safety relief valve set at 375 pounds, the "Pig" has the following U. L. approved fittings:

Regulator	¼" Outage
House Line Valve	1¼" Filler Valve
Visual Liquid Level Gauge	¾" Vapor Return

The ANCO PIG complies with I. C. C. 4BA-240 specifications:

Weight 280 lbs. approx.
Length 45"
Diameter 32"
Capacity 949 lbs.

(Water capacity approx. 114 water gallons.)

Stocked at: Tulsa ● East St. Louis ● Omaha

ANCO MANUFACTURING & SUPPLY CO.

ANCO Manufacturing & Supply Co.
P. O. Box 1066 Tulsa, Okla.
Minneapolis, Minn. Omaha, Neb. East St. Louis, Ill.

MARCH 1955

BUTANE-PROPANE News

NBP

VOLUME 17 • NUMBER 3

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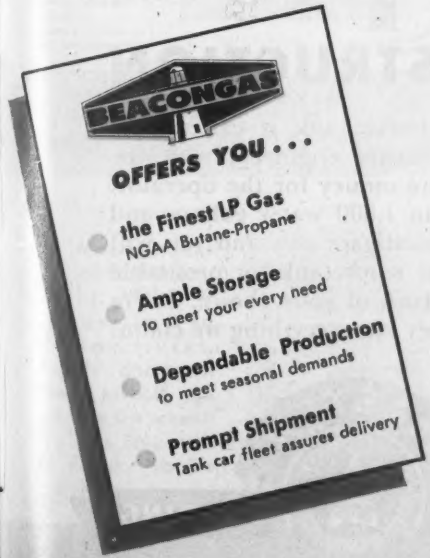
Delivery you can depend on . . .

By the light from the dispatchers office, another shipment of Beacongas speeds on its way through the night. When you rely upon Beacon Petroleum for your Butane Propane you are assured of delivery during your busiest months. You are sure because it is our policy to sell LP gas only within our capacity to produce and deliver. We'll never, and you'll never — get caught short. At present we can handle a number of new contracts. Why don't you be sure . . with Beacon.



BEACONGAS

BEACON

PETROLEUM COMPANY

TULSA • HOUSTON

"The Time Saver"

nished with one primer coat
d two coats of high gloss
hite auto enamel.

Another Masterpiece

IN TANK CONSTRUCTION

We Provide Easy—Convenient Financing

It's no wonder the 1955 model Master tank is called *The Time Saver*. It was designed by Master engineers with the idea of saving time and making more money for the operator. Available in capacities from 1,400 to 1,800 water gallons and will fit all standard truck frames. Investigate now and you will be convinced *The Time Saver* is the truck tank for profitable operation. Shipped complete with truck of your choice. We're making 'em. We're shipping 'em. They are everything we claim!

PRODUCTION MADE
PRODUCTION PRICED

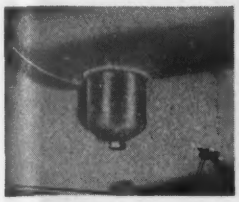
MASTER
TANK & WELDING

P. O. Box 5146 • Dallas, Texas • FRospect 2401

The Latest

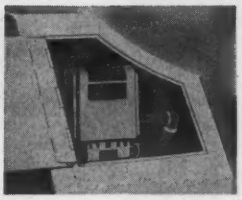
Master Tank Truck

ALL WORKING PARTS and FITTINGS MOUNTED ON REAR OF TANK



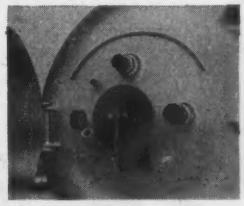
SUMP
Suction line picks up from within 4" sump on bottom of the front of each tank. Tank can be pumped dry. Sump traps sediment which is drained off periodically.

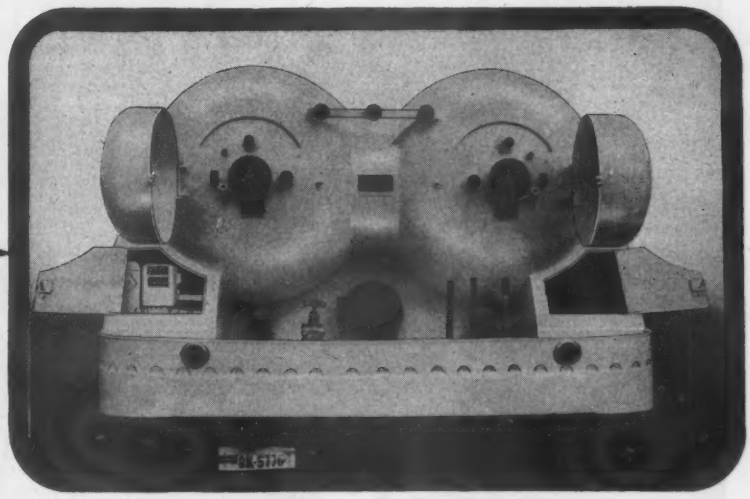
METER BOX IS STANDARD EQUIPMENT
Each box is 16" high, 26" deep and 18" wide and comes as part of The Time Saver at no extra cost. Large enough for meters or can be used as tool boxes.



PUMP IS BETWEEN TANKS
Pump operates from a tubular driveshaft connected to the power takeoff of the truck. This driveshaft is as strong as the one on the truck and will not whip or flex.

FITTINGS WITHIN EASY REACH
No running from one side of the truck to the other to turn on valves and start the pump. Operator stands at the back of the truck and everything is within easy reach, including clutch, power take-off and accelerator.

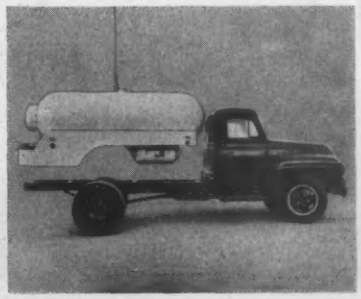




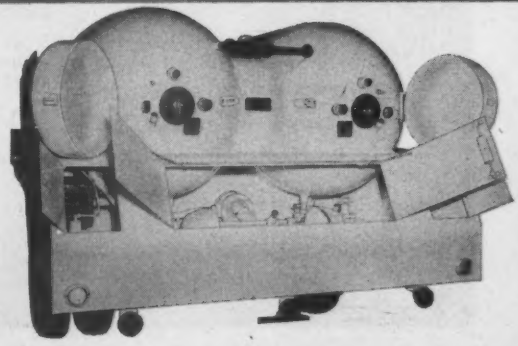
For the first time, all working parts of a truck tank are mounted as a single unit on the platform at the rear of the tank. In addition to the time saving features in quicker delivery and changing trucks, there is less maintenance due to lack of vibration. Around the pump connections, rigid pipe is used for the first time because there there is no flex or strain. All T's and L's are welded. It is not necessary to change the exhaust system with the pump in back, for there are no connections near the muffler.

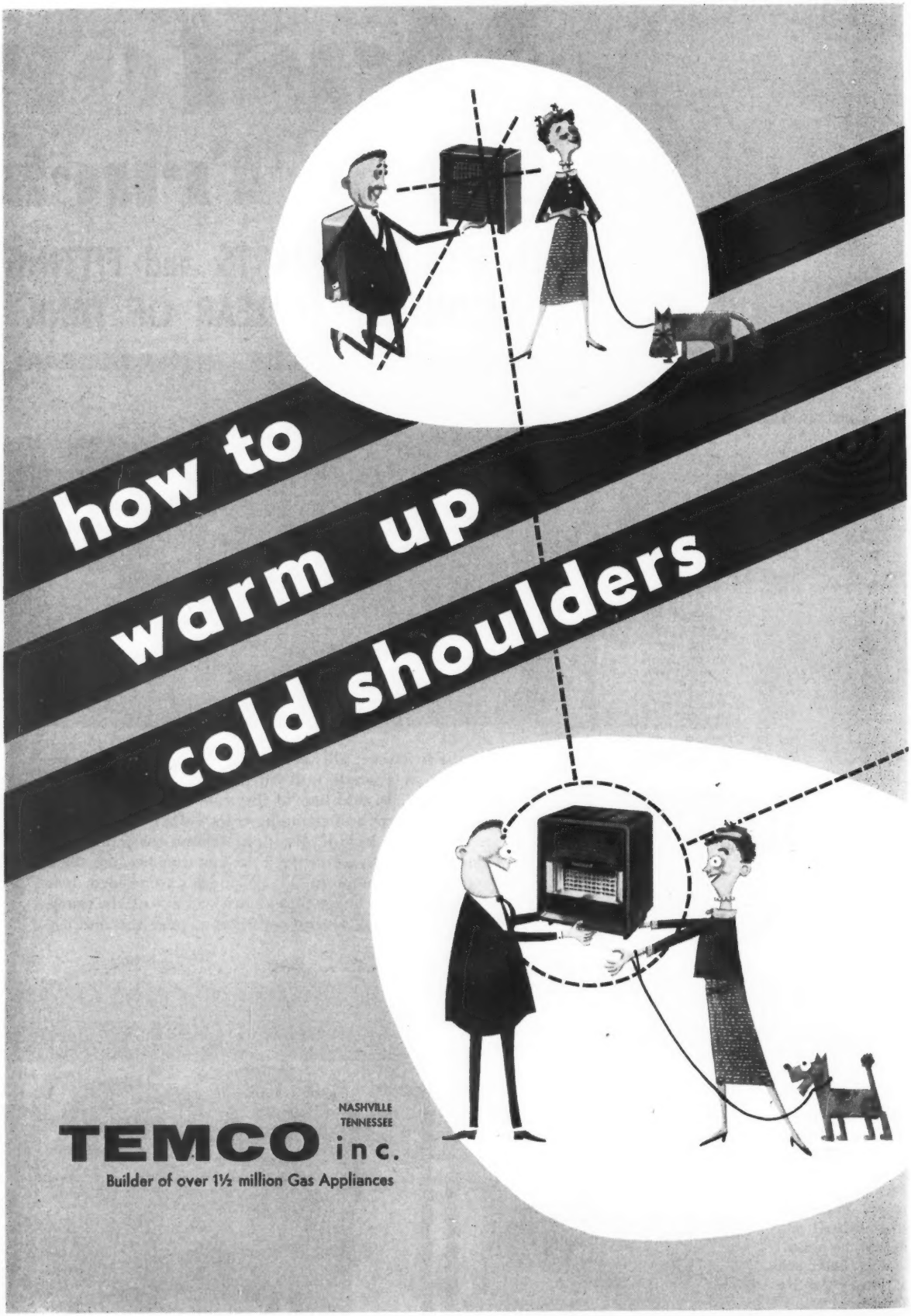
ONLY 60 MINUTES TO CHANGE TO ANOTHER TRUCK

All Master tanks will outlast many trucks. When it comes time to change trucks, merely disconnect power takeoff and unscrew the mounting bolts. Entire unit is ready to be moved.



FULLY ENCLOSED REAR COMPARTMENT




how to
warm up
cold shoulders
TEMCO
NASHVILLE
TENNESSEE
inc.
Builder of over 1½ million Gas Appliances

Yes, for warming up chilly prospects, there's nothing like

TEMCO'S

WONDERFUL NEW

vented gas heater

revolutionary in both engineering and design

COUNT THE SALES POINTS:

- Offers your customers completely automatic, healthful gas heat.
- Available sizes ranging from large Forced Air models to heat entire homes to tiny Temcos that heat small rooms.
- Completely automatic controls available for all models.
- Engineered for long life and economy by America's Gas Heat Specialists.
- Handsomely styled to blend with any decor.
- Finished in Temco's famous Lifetime Porcelain Enamel.
- Backed by Temco's 30 years of gas appliance experience.
- Specifically engineered for use with LP gas.
- Priced to bring the luxury of clean, fast, completely automatic gas heat within range of every budget.

TEMCO inc. NASHVILLE TENNESSEE

Builder of over 1½ million Gas Appliances

TEMCO, Inc., Department B-720
Nashville 9, Tennessee

Please send me the full story of the profit potentials for me in Temco's new Vented Gas Heaters.

Name .....

Address .....

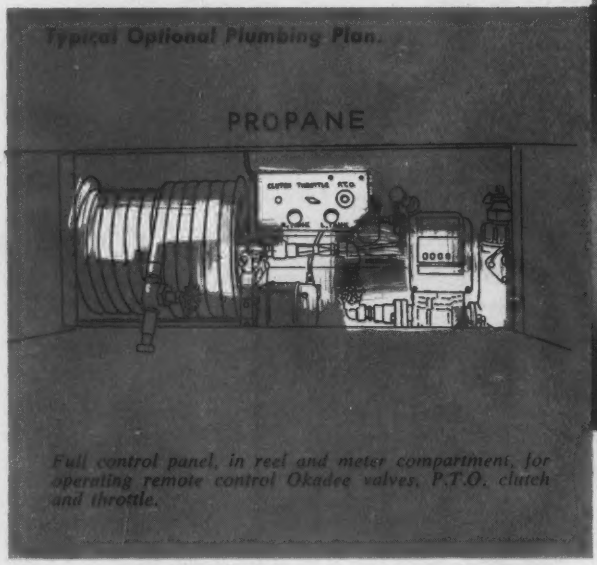
City ..... Zone ..... State .....

another Trinity first...

TRINITY'S FAMOUS

Twin Barrel Model No. 100. 2450 WG cap. 46" dia. X-rayed and stress relieved. Gross over-all weight is surprisingly low due to X-ray and stress relieving during construction. Meets all ASME and ICC codes.

- Bigger Payloads
- Fewer Stops
- Fewer Trips
- Less Dead Time
- Trinity Engineered



Full control panel, in reel and meter compartment, for operating remote control Okadee valves, P.T.O. clutch and throttle.

Twin Barrel Model No. 100. 2175 WG cap. 250 lb. WP. Combines all famous Trinity features including the neatly designed preformed sectional skirting. Truly a PAYLOADER truck.

Write today for:

The Trinity Story

A beautiful 12-page catalogue covering all the items in the Trinity line. Complete information and price list will be sent you promptly.

MEMBER LPGA

ASK US — about financing your new trucks, 25% down — 24 months at 5% per year.

TRINITY STEEL COMPANY •

PAYLOADER TRUCKS

Twin Barrel Model No. 100. 2450 WG cap. Designed specifically for maximum loading during Spring Thaw. Features unique tandem trailing axle. The first 2450 gal. truck that meets universal axle loading requirements in all "Thaw Law" states.

For mounting Neptune No. 433 Printometer; Hannay Electric Reel, Liquid and Vapor Hose, Chrome Hardware, all Remote Controls.

Once again, TRINITY'S engineering skill leads the way with its NEW series of PAY-LOADER trucks.

Carefully designed to meet all state axle loading requirements, these new models are the result of Trinity's advanced engineering skill that means real dollar Profit to you . . . bonus PAY LOAD profit.

It's money saved — money in your pocket with larger pay loads because you have fewer trips — and more delivery time. And, like all Trinity trucks, you know they are rugged, built for long service and hard use, and are economical to operate.

Write today for further information about these and other Trinity firsts — including transports, storage, and the Eveready Gas Systems.

Twin Barrel Model No. 100. 2200 WG cap. Constructed under 1952 code and ICC MC-330. 250 lb. WP. Built for efficient operation. Combines all Trinity advanced engineering features.

TRINITY STEEL COMPANY INC.
EVEREADY
GAS SYSTEMS

3301 SOUTH LAMAR STREET, DALLAS, TEXAS • HUnter 8321

WHATEVER YOU NEED IN

THERE'S A Nor-Tex UNIT

PIPE IT YOURSELF AND SAVE THE DIFFERENCE!

Here's important news for truck tank buyers! We ship these popular Nor-Tex Units everywhere! Recessed fuel tank included, buy your fittings and cut and thread your own pipe . . . or buy the low cost Nor-Tex "Pipe-It-Yourself" package. This package has everything you will need, including a can of John Crane's lead seal. Nothing more to buy. Phone, wire or write for prices and details.

$1,078.50 F.O.B. Denton Federal Excise Tax Not Included

For Immediate Shipment Anywhere Or Mounted On Your Chassis

WRITE, WIRE OR PHONE FOR PRICES

WE ARE AUTHORIZED TRUCK DISTRIBUTORS
Every Unit Priced Completely Equipped and Ready To Go . . . Excise Tax Paid.

Nor-Tex PRODUCTS COMPANY

National Sales Agents for

Balance Your Load the Nor-Tex Way

+

Finance the Balance

A Complete "Package Unit"

It's complete! Ready to go to work for you! This trim skirted Nor-Tex Twin Delivery Unit is mounted on a brand new 1955 Chevrolet chassis with 50-gallon recessed fuel tank, P. T. O., spline jack shaft, Viking mechanical seal pump, 50' filler hose and ICC lights. Gleaming aluminum finish over red oxide.

$3,794.85 F.O.B. Denton Federal Excise Tax Included

NORTH TEXAS

QUALITY LP-G EQUIPMENT

Ready FOR DELIVERY

NOR-TEX STAR

Domestic Tanks

"Built To Last A Lifetime"

The popular custom designed Nor-Tex Star is fabricated to rigid production specifications by men with years of domestic tank manufacturing and installation experience. It is double tested! The Nor-Tex Star meets all national, state and local requirements . . . the safest, finest quality tank you can buy! It is smoothly finished and aluminum painted over red oxide. Your satisfaction guaranteed or your money back!

IMMEDIATE DELIVERY

In One or Truckload Quantities

Make it EASY and CONVENIENT for Your Customers to BUY and USE LP-GAS!

Nor-Tex "PONIES" (strategically placed for best distribution) can substantially boost year 'round sales and quotas. Operate them yourself or arrange with highway service stations to dispense LP-Gas for you. Nor-Tex portable "PONIES" can be easily placed on farms, ranches, in truck and bus terminals and "on-the-job" for contractors and utility companies. Nor-Tex "PONIES" are the result of many years experience and painstaking efforts by men in the bulk plant phase of the industry, thoroughly familiar with the actual filling of fuel tanks, bottles, etc. Each "PONY" is carefully tested for the efficient, safe, trouble-free dispensing of LP-Gas. Note the large cabinet with its convenient arrangement of fittings and ample meter room. Nor-Tex "PONIES" meet all requirements — U-69 — W250 Codes. Sizes: 500, 700, 1000, 2000, 3000 and 4000 WG. Can be equipped with your choice of popular pumps, meters and accessories.

Selling Profitable Tractor Conversions Is A Real Customer Service

Conversion business is booming! Users report up to 60% savings on fuel . . . Oil consumption reduced to 80% . . . Engine wear reduced 75% . . . 2 to 1 engine life ratio . . . Oil dilution and carbon deposits eliminated . . . Repairs slight . . . Replacement of parts practically nil! TELL these advantages of LP-Gas in Internal Combustion Engines and you'll SELL conversions of all types of mobile and stationary equipment.

PREPARE NOW to serve this Rich LP-G Market!

There are Nor-Tex Conversion Fuel Tanks now in use on trucks, busses, cabs, pleasure and business vehicles, tractors and farm machinery, pumps, construction and earth moving equipment, materials handling equipment, pipelines and drilling equipment . . . in fact on all types of Internal Combustion Engines. You can buy custom-built Nor-Tex fuel tanks at "production line prices," complete with mounting brackets and fittings. Just bolt it on and connect it up.

TANK CO.

P. O. BOX 1219
DENTON, TEXAS
CENTRAL 5416

Natural gas producers, small and large, are convinced that if the American people understand the issues regarding federal regulation they will reach the right decision. Therefore, we are endeavoring to lay the subject before the people and to encourage the fullest possible discussion of the issues. To do so, this advertisement has been placed in newspapers throughout the country.

What the Regulation of Gas Supply Means to 25,000,000 American Families

THE FIVE THOUSAND producers of natural gas—large and small—believe that the free competitive system which has increased your gas supplies and kept rates low is the best for consumers, for the industry, and the economy.

They believe the proposal to abandon competition and clamp bureaucratic controls on gas production will hurt consumers, damage the industry, and *benefit no one*.

Here are some answers to questions you as a consumer may have on this vital issue.

What Is This Regulation?

Sixteen years after a 1938 law was passed, a new interpretation of some of its words now forces the Federal Power Commission to do what it has eleven times refused to do—try to fix the price that an interstate pipeline pays the 5000 competing producers who find the gas and get it from the ground.

Will This Regulation Reduce Our Gas Bills?

Hardly. Only about 10% of the average gas bill goes to the producer who finds the gas and sells it. The other 90% pays for constructing, maintaining and operating the long-distance pipelines and local distribution systems—already regulated.

How Will Regulation Affect Supply?

It will reduce the supply. Most natural gas is produced by "wildcatters" and other independents. They are used to keen competition and big risks. But put them under Federal controls—with permits, endless forms, licenses, hearings and suits—and the work of exploration is sure to suffer. Three new pipeline projects to bring gas to more consumers have been suspended since regulation took effect.

Hasn't Gas Always Been Regulated?

Gas *distribution*, yes. It makes sense to have only one pipeline bring gas to a community—and one gas company distribute it in the community. Both do a good, efficient job for you, and as monopolies they are naturally regulated.

But there's no monopoly in *finding* gas. Far from it. Gas *production* is risky and keenly competitive. There are five thousand large and small producers looking for gas—and finding it in only one out of

every nine exploratory wells they drill. They compete vigorously to sell their gas. A single pipeline may buy from 200 or more producers.

Is Gas Different from Coal or Oil —or Grain?

It isn't. And if there's price-fixing for natural gas at the well so can there be next for coal at the mine or oil at the well—or lumber in the forest, or grain on the farm.

How Did The Consumer Fare Before This Regulation?

Here's the record. In the past 16 years natural gas production has increased 200% and the price the consumer paid for gas has risen only 1/11th as much as the general cost of living.

Do Only A Few Big Companies Produce Gas?

No. The largest 37 companies produce less than half the nation's gas. No single company produces more than 5%. The small producers do more exploratory drilling than do all the big companies combined. And none of the producers has any monopoly, any exclusive franchise, or any protection.

What Is The Natural Gas and Oil Resources Committee?

It is made up of companies and individuals concerned with natural gas. It includes a great many large and small gas and oil producers. All believe there is no more reason for OPA-like price-fixing on gas than on steel, coal, autos, meat, or shoes, which could be next. All believe that free competition is better for all of us than a price-controlled economy, which has historically led to stagnation, scarcity and rationing.

What Can I Do?

You can reason out the issues, reach your own conclusions, and make those conclusions known to your friends and neighbors.

Under free competition without federal regulation—

- Natural gas became plentiful—output rose two hundred per cent in the past sixteen years.
- Natural gas stayed reasonable—and gas prices to the consumer rose only one-eleventh as much as living costs in the past sixteen years.
- Natural gas has helped create thousands of jobs in industry and now supplies one-fourth of the nation's energy resources.

NOW .....cumbersome federal controls threaten all this progress.

FOR MORE FACTS WRITE FOR THIS BOOKLET NOW!

You have the right to know the facts about this new government regulation—a peacetime control of free, competitive producers. Send today for the booklet, "Natural Gas—A Key Resource in Jeopardy."

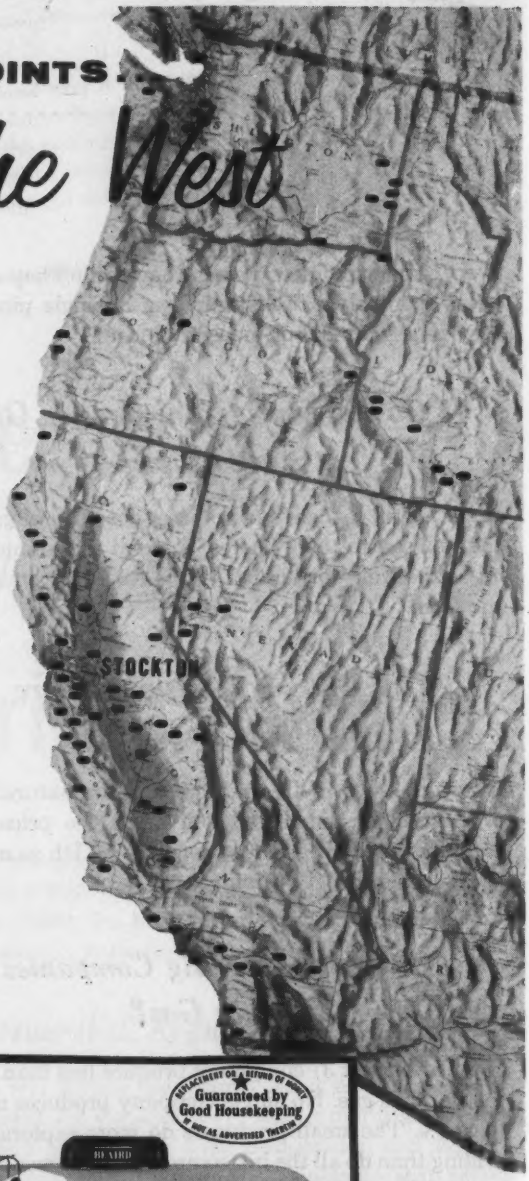
NATURAL GAS

NATURAL GAS AND OIL RESOURCES COMMITTEE

Room 5402, 350 Fifth Avenue, New York 1, N. Y.

74 BEAIRD STOCKING POINTS . . .

. . . Serve the West



Do away with LP-Gas system inventory worries . . . large stock investments . . . shipping delays . . . and LCL freight premiums. Make your next pick-up from any one of BEAIRD'S 74 WEST COAST STOCKING POINTS. Established at key locations from the Mexican border to Canada, they provide a handy source of *local supply* for your trade area. You benefit from *"full load" price savings* when you buy one or more LP-Gas systems from a Beaird stocking point.

Your customers will be better satisfied, too, when you deliver them a MODERN *nationally advertised product* . . . the only LP-Gas system to carry the *GOOD HOUSEKEEPING SEAL.*

Only Beaird LP-Gas Systems are Advertised . . . Merchandised and Distributed . . . Nationally.

THE LP-GAS SYSTEM WITH EXCLUSIVE "MOISTURE FREE" WINTER PROTECTION.

Write or call today for the full story on Beaird's nation-wide stocking point program — or the location of your nearest Beaird local supply point.

PACKAGED COMPRESSOR PLANTS | CAST STEEL FITTINGS | PRESSURE BULK STORAGE
ANHYDROUS AMMONIA EQUIPMENT | LP-GAS SYSTEMS | MACHINING FABRICATING STEEL WAREHOUSE

BEAIRD

THE J. B. BEAIRD COMPANY, INC.

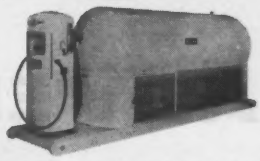
SHREVEPORT, LOUISIANA • STOCKTON, CALIFORNIA

TRAILER TRANSPORTS
Single & Double barrel
3 to 5 Year financing

DEALER STORAGE
2,000 to 30,000 Gallons
3 to 5 Year financing

LP-GAS SYSTEMS
Anhydrous Ammonia Systems
3 to 5 Year financing

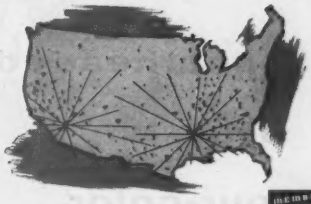
Why BEAIRD?*



LP-GAS FILLING STATIONS (PAT.)
3 to 5 Year financing

NATIONAL ADVERTISING

DEALER MERCHANDISING



STOCKING POINTS

LPGA

* *Because* when you do business with Beaird you deal with an integrated organization whose five large divisions combine to offer you a full line of equipment, plus a realistic merchandising, long-term financing, inventory and selling program.

What does this mean to you — an LP-Gas dealer? It means simplified purchasing of top quality equipment, a balanced inventory with lower capital investment and a full-time salesman calling on your customers from the pages of nationally read magazines and brochures mailed in your trade area.

Put Beaird's "Profit Plan" to work for you today. Ask your nearest Beaird representative for full details . . . or write.

—Five great Beaird manufacturing divisions

PACKAGED COMPRESSOR PLANTS

CAST STEEL FITTINGS

PRESSURE BULK STORAGE

ANHYDROUS AMMONIA EQUIPMENT

LP-GAS SYSTEMS

MACHINING
MANUFACTURING
STEEL WAREHOUSE

BEAIRD

Shreveport, Louisiana
Stockton, California

THE J. B. BEAIRD COMPANY, INC.

RECORD

Caloric

ADVERTISING

spearheaded by four-color pages in

LIFE

Plus regular campaigns in these great sales-making magazines

Consistently for years, Caloric has been the biggest national advertiser in the gas range industry. Now, Caloric is pulling out all the stops with record advertising for its colorful, new master line of fine appliances.

Four-color pages in LIFE lead the parade. And regular big-space ads will be appearing consistently in America's best-read, best-selling magazines.

Use the great Caloric RANGE-O-RAMA and Merchandiser described on opposite page, to tie-in your local promotion with Caloric advertising. RANGE-O-RAMA means record sales for Caloric dealers from coast to coast.

94,850,000 READERS

THIS GIANT CALORIC MERCHANDISER PLUS

RANGE-O-RAMA

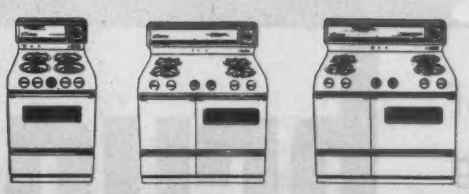
the unique integrated merchandising plan and calendar for all your advertising and merchandising:

CAR CARDS • NEWSPAPER ADS BILLBOARDS • DIRECT MAIL • TV • TELEPHONE DIRECTORY LISTINGS • RADIO • DISPLAYS • THEATRE ADVERTISING • FILMS

In this one giant comprehensive Caloric MERCHANDISER, you'll find the complete package . . . everything you need for local promotions.

And RANGE-O-RAMA helps you to use your advertising more efficiently than ever before, and thus to sell more Caloric ranges in 1955.

It's just off the press! Get the whole story! Send coupon today for Caloric MERCHANDISER and the great new RANGE-O-RAMA plan with your promotion calendar.



ALL THIS TO HELP YOU SELL MORE CALORIC RANGES IN 1955!

Caloric Appliance Corporation, Topton, Pa.
Dept. BP

I want to hear about RANGE-O-RAMA. Please send (or bring) me the great new Caloric MERCHANDISER with RANGE-O-RAMA.

Name_____

Company_____

Address_____

City_____ Zone____ State____

BE "MR. B"*

* AUTHORIZED BRYANT HOME COMFORT DEALER

and
build your
business
ALL 8
of these
ways

The SELLING line of
automatic heating
air conditioning
water heating

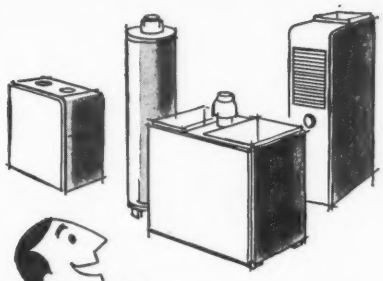
bryant®

bryant
HEATING COOLING
Jones & Son

1

a name your customers know and want

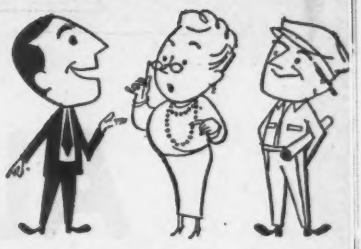
For 46 years THE name in automatic home comfort. Over 5,000,000 units in use. A great asset for the dealer who displays the Bryant Home Comfort sign!



2

the most complete line

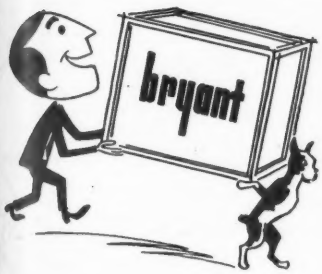
Gas and oil furnaces, boilers, central and room air conditioners, space heaters, unit heaters, water heaters—for every purpose, every purse—from one source!



quality equipment for every market

De luxe units for discriminating customers . . . standard units for the mass "new-home" market. Famous Bryant quality—Bryant engineering excellence—in both lines . . . down the line! Ask your Bryant Distributor for the facts.

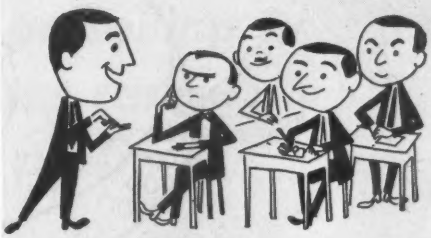
3



exceptional distributor service

Your Bryant Distributor is near at hand and ready with complete engineering, sales and service assistance to help you sell and install the complete Bryant line—*profitably*. He's there to serve you; it pays to know him well!

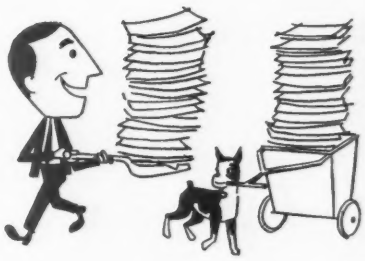
4



professional sales training

Organized factory classes—comprehensive field schools—conducted by a full-time professional staff. For all qualified Bryant dealer personnel.

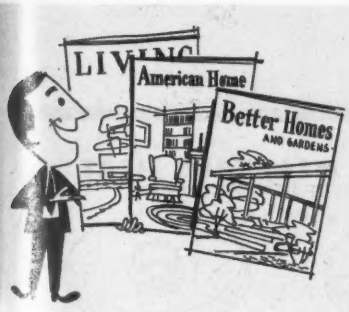
5



personalized selling tools

The most complete and completely practical selling literature lineup in the industry — including Bryant promotional letters, folders, displays, etc. . . . designed and printed *especially for your own use.*

6



full-color national ads featuring YOU

telling your customers that you are "Mr. B"—the man to see for top quality home heating, air conditioning and water heating...Bryant, of course!

7

co-op "Mr. B" ads in your local newspaper

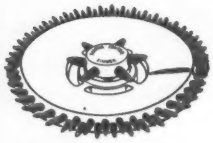
Focusing the full power of Bryant's sales-getting program on your customers, over your name, in your own community. Be a power...be "Mr. B"!

8

Be "Mr. B"—Mr. BIG in the big home heating, air conditioning and water heating business. Only Bryant enables you to be "Mr. B" . . . to build your business *all* 8 of these practical, profitable ways. For bigger profits now, for a secure and prosperous future—*see your Bryant Distributor!* Ask him about Bryant's big "Mr. B" action program, and how it can make sales and money for you.

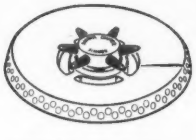
ALLTROL® CENTER make GAS RANGE

ONLY ALLTROL® BURNERS GIVE THRIFTY MEASURED HEAT

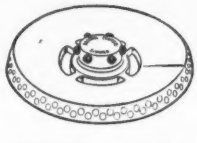


Instant full flame... brings foods to cooking temperature in shortest time.

"Click"... convenient Low Frying heat... provides perfect widespread low heat for "most used" frying operations.



"Click"...efficient Center Simmer...maintains boiling in any covered utensil.



"Click"...gentle "Keep-Warm" heat... keeps foods perfect for serving without further cooking.

SIMMER BURNERS SALES SIZZLE

Coast-to-coast the story's always the same—

These 6 Super-Selling Points move more gas ranges for more profit

Only gas ranges with Center Simmer Burners can give these 6 user-benefits. And when you demonstrate these advantages—you, too, will find your range sales shooting upward—fast!

The reason is simple: most people need to be *shown* that *modern* cooking means cooking with gas—on Center Simmer Burners. Demonstrate these 6 main advantages—to prove your gas range is indisputably best, on every count!

Write today for your free copy of "How to Sell More Gas Ranges."

6 benefits your customers buy

- **COOLEST COOKING**—The measured heat of Alltrol Center Simmer Burners keeps kitchens up to 9° cooler. Cooks the food—not the cook!
- **CLEANEST COOKING**—Clear blue flame can't blacken pans . . . and the "just right" heat eliminates messy boil-overs.
- **HANDY KEEP-WARM HEAT**—Tiny pre-set flames keep food and beverages perfect for serving without further cooking!
- **LOW FRYING HEAT**—Convenient "always the same" setting. Perfect for cooking fish, eggs and bacon. Eliminates guessing, peeking under the frying pan.
- **GREATER CONVENIENCE**—No "matching" of pans with burners—use any utensil on any burner! And you can set the right heat by sight or by sound.
- **THRIFTIER COOKING**—Save up to 39% on fuel costs alone! It's an important saving—for 80% of home cooking is done on the top burners.

HARPER-WYMAN COMPANY

Dept. 35-B • 8562 Vincennes Avenue • Chicago 20, Illinois

ORIGINATORS OF CENTER SIMMER BURNERS

ALLTROL® CENTER SIMMER

Q
A
"How can I be sure of getting the most cylinder value for my money?"
Ask questions like these *before* you buy ...
MODEL PC-5 —for 5 lb. Propane or 6 lb. Butane.
MODEL PC-20A— for 20 lb. Propane or 24 lb. Butane.
MODEL RC-100A— for 100 lb. Propane or 119 lb. Butane.
MODEL RH-300A —for 300 lb. Propane or 357 lb. Butane.
MODEL PC-420A —for 420 lb. Propane or 500 lb. Butane.
Hackney
MILWAUKEE
DOWNINGTOWN
IRON WORKS
LP-GAS CONTAINERS
From one pound to 30,000 gallons

Q. What are the advantages of the two-piece cylinder?

A. Two-piece Hackney LP-Gas Cylinders have only a single circumferential weld. This minimum seam area means less chance for leakage—less seam area to inspect and maintain.

Q. Why does a two-piece cylinder weigh less?

A. Hackney Two-Piece Cylinders are the lightest type that can be made under existing ICC regulations. Three-piece cylinders must be made of heavier steel.

Q. Is the welding sound and neat?

A. Hackney Cylinders are welded on automatic welding machines. Welds are X-ray controlled to assure soundness and uniformity.

Q. What sort of steel is the cylinder made from?

A. Hackney Cylinders are made from selected high-strength steel, tested to meet rigid specifications. High-strength steel permits a lighter tare weight, without sacrificing strength or resistance to denting.

Q. What are the advantages of cold drawing?

A. The Hackney cold drawing process produces uniform side wall thicknesses that eliminate excess material and excess weight. It results in extra-smooth surfaces and rounded contours that improve cylinder appearance.

Q. How does heat-treating improve the cylinder?

A. Hackney Cylinders are heat-treated under scientifically controlled time and temperature conditions to eliminate all welding and forming stresses. Heat-treating also increases the strength and corrosion resistance of the steel.

Q. Is the cylinder thoroughly dry and clean inside?

A. Hackney Cylinders are carefully cleaned to remove troublesome scale, rust and other foreign matter. They are thoroughly dried and are immediately valved or plugged to prevent moisture accumulation.

Q. Is the marking data clear and easy to read?

A. Markings on Hackney Cylinders are neat and clear, and a special depth-controlled stamping process assure good legibility.

Q. Whose reputation stands behind the cylinder?

A. Pressed Steel Tank Company—manufacturer of Hackney Cylinders—has made more LP-Gas cylinders than any other company—has been making various types of compressed gas cylinders continuously since 1905.

40 Questions

This useful booklet gives the answers to forty questions you'll want to ask before you buy LP-Gas cylinders. Send for your free copy today. Find out why Hackney cylinders cost less than ¼¢ a day—give you THE MOST *VALUE* FOR EVERY DOLLAR you invest in LP-Gas cylinders.

PRESSED STEEL TANK COMPANY

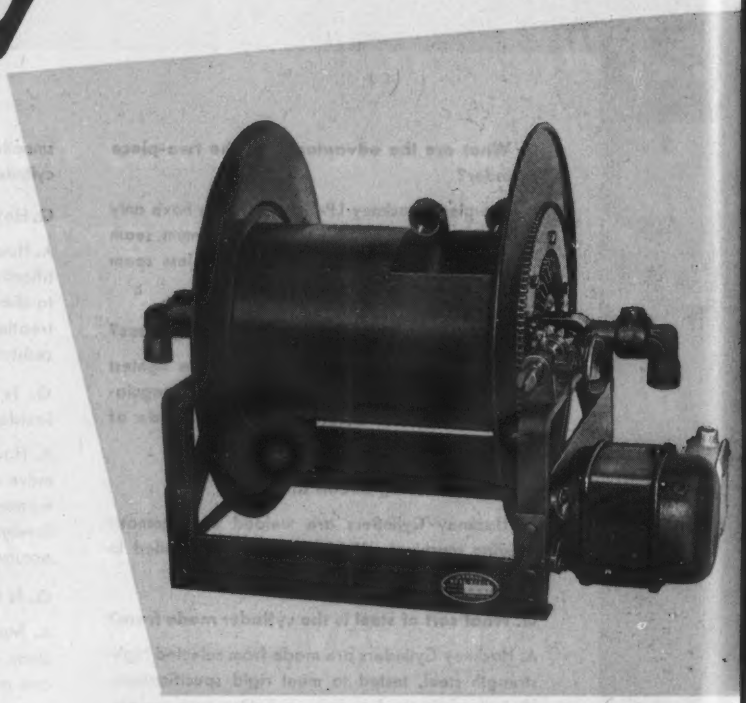
Manufacturer of Hackney Cylinders

1487 S. 66th St., Milwaukee 14 • 52 Vanderbilt Avenue, Room 2099, New York 17
227 Hanna Bldg., Cleveland 15 • 936 W. Peachtree St., N.W., Room 112, Atlanta 3
208 S. LaSalle St., Room 790, Chicago 4 • 552 Roosevelt Bldg., Los Angeles 17
18 W. 43rd St., Room 13, Kansas City 11, Mo. • DOWNINGTOWN IRON WORKS, INC., DIVISION, 138 Wallace Ave., Downingtown, Pennsylvania

Hackney MILWAUKEE

DOWNINGTOWN IRON WORKS

Speed Your LPG Deliveries...



QUICKER DELIVERIES, LONGER HOSE LIFE, MOST DEPENDABLE SERVICE WITH HANNAY REELS

Hannay Hose Reels for LPG are saving money every day for LPG distributors from coast to coast. Time saving and practical, they pay for themselves in savings of wear and tear on valuable hose alone. Hannay reels have earned their reputation for absolute dependability from more than twenty years of actual field service. They are backed by an organization devoted *exclusively* to the manufacture of the best hose reels it is humanly possible to make. Your LPG deliveries can be made more profitably when you use Hannay Hose Reels.

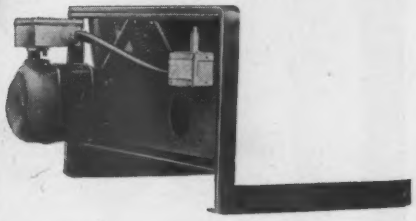
- Explosion-proof heavy duty electric motor speeds rewinding. More deliveries per day.
- Complete explosion-proof electrical system including junction box and vapor-proof micro-switch.
- Full-flow hub assembly assures rapid delivery without turbulence. No restrictions.
- Rugged construction throughout. Tru-circle drum and rounded discs preserve hose.
- Positive sprocket and chain drive—always properly engaged. No clutch or gears to shift.
- Wide range of sizes to fit any size hose cabinet.
- Hose size range from ½" to 1½" I.D.
- Hand rewind models also available.
- Ball-bearing forged steel swing joints with flame-hardened ball races. Swing joints do not carry weight of reel.

HANNAY
REG. U.S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, Inc.
WESTERLO, NEW YORK

©C.B.H.&S., Inc.

...with this NEW HANNAY DUAL HOSE REEL for both LIQUID and VAPOR RETURN HOSES

Heavy duty explosion-proof electric motor speeds rewinding. Safe... Quick... Economical.



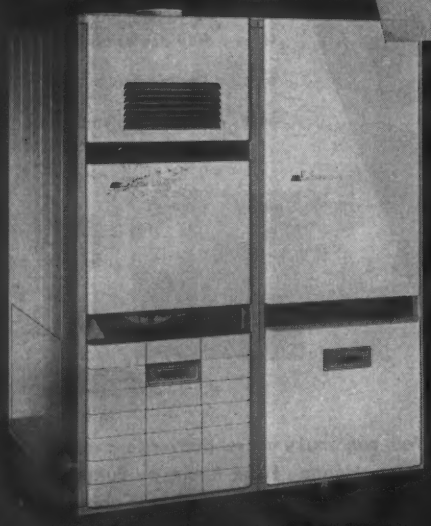
It's a fact! You *can* make more deliveries every day when you use Hannay Hose Reels, by cutting the time for each delivery. Now this *new* Hannay Reel is available which reduces still more the delivery time on vapor-return delivery systems. Because the two hose connections are placed side by side on the drum, it is possible and practical to handle both liquid and vapor return hoses as a unit by taping them together.

For complete details and further information, ask your equipment jobber or write to us.

HANNAY ...Greatest Name in Hose Reels

Count on Coleman for home heating and air-conditioning to fit any home, any climate, any budget!

New features Sell the Bigger 1955



Coleman Blend-Air HEATING and AIR CONDITIONING

with exclusive blenders that give home comfort never before possible

It's the ONLY system completely pre-engineered from furnace burner to outlet grille. Exclusive "blenders" replace registers, *blend* hot furnace air with room air to maintain even temperatures floor-to-ceiling and wall-to-wall. 3½-inch round ducts fit between studs—easy to install—eliminate costly cutting—a real sales feature in new homes or remodeling.

Blend-Air Furnaces—Any Installation

19 models of Blend-Air Furnaces for installation in alcove, closet, utility room, basement, attic or underfloor crawlspace. Compact models to fit any home.

Blend-Air Cooling Doubles Your Sales Prospects: 26 models for new home or old. Savings on water and electricity costs proved in the Coleman Home, NAHB Air Conditioned Village, Austin, Tex.

EXCLUSIVE!

You Can GUARANTEE comfort with $1000 Bond!

Only Blend-Air gives your customers such comfort—so only Coleman backs you with $1000 Comfort Bond!

COLEMAN GAS WALL FURNACES

Coleman Wall Furnaces look handsome as a wall decoration—yet give your customers "central heating" performance! Coleman's "Economizer" grille and Directionair blower (optional) Super-Circulate warmth to farthest corners. Easy to install in single-stud space without costly alterations. That's why this furnace is so easy to sell!

THREE big extras sell this water heater *FAST!*

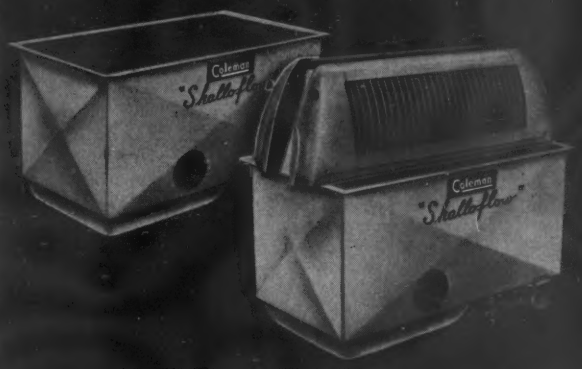
COLEMAN VIT-ROCK 30S Water Heater

1. Coleman's solid rock lining can't rust!
2. "Jet recovery" action gives plenty of hot water, always on tap!
3. 10-year warranty backed by EXCLUSIVE $500 BOND!

Coleman line faster than ever!

"Super-Circulation" makes this the WORLD'S EASIEST HEATER TO SELL!

Your customers get a "wall-to-wall" carpet of comfort with Coleman oil or gas space heaters! Only Coleman's exclusive "Super-Circulation" makes it possible. Use the Coleman Super-Circulation demonstrator to prove the difference! Other Coleman "plus" features: new handsome console cabinets to please the housewife, in a choice of Golden-Glow or shadowed mahogany finishes. New interchangeable Directionair Blowers give "big furnace" comfort. Big fuel savings from exclusive Coleman burners! Sizes to heat one room or entire home!



"Wall-to-Wall Carpet" of Warmth SELLS FLOOR FURNACES For You!

Coleman Floor Furnaces make any home easy to heat! Exclusive design re-heats and recirculates air 3 to 5 times an hour, re-heats floor level air before it can get cold! Flat register or dual wall models.

Coleman HELPS You SELL

1. NATIONAL ADVERTISING!

Big full page ads in "LIFE" and "Saturday Evening Post," "Better Homes and Gardens" and "American Home" pre-sell your customers on the features of Coleman heating and air conditioning. Take advantage of this powerful advertising program!

2. Biggest PROMOTION PLAN

Coleman offers you a complete assortment of broadsides, demonstration displays, product films in color, banners, envelope stuffers—plus cooperative-advertising plans and promotions to builders. Tie in for extra sales!

Coleman®

Since 1900—makers of the Famous Coleman Lamps, Lanterns, Camp Stoves, and Home Heating and Air Conditioning.

THE COLEMAN COMPANY, INC. WICHITA 1, KANSAS

SPECIALLY DESIGNED FOR LP-GAS

THE COLEMAN COMPANY, INC., WICHITA 1, KANSAS, DEPT. BPN-551

Please send me complete information on your full line of heating, air conditioning and water heating equipment—plus a description of sales helps available to me as a dealer. Have your distributor's salesman call.

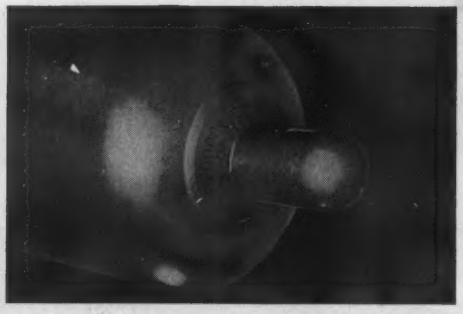
NAME_____

FIRM NAME_____

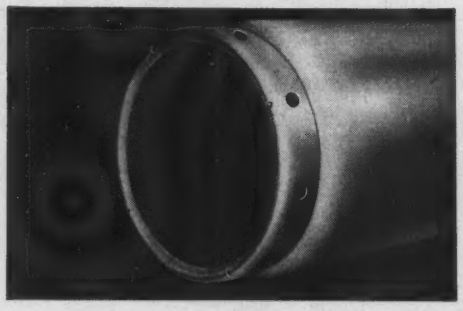
ADDRESS_____

TOWN_____ ZONE____ STATE_____

PREST-O-LITE
Trade-Mark
CYLINDERS
for LP-Gas
are your best buy



Data remains easy to read throughout life of the cylinder. Large characters are deeply cut into an extra thick, wide flange on 60-lb. and 100-lb. capacity cylinders (into valve protecting head ring of 20-lb. and 40-lb. styles).

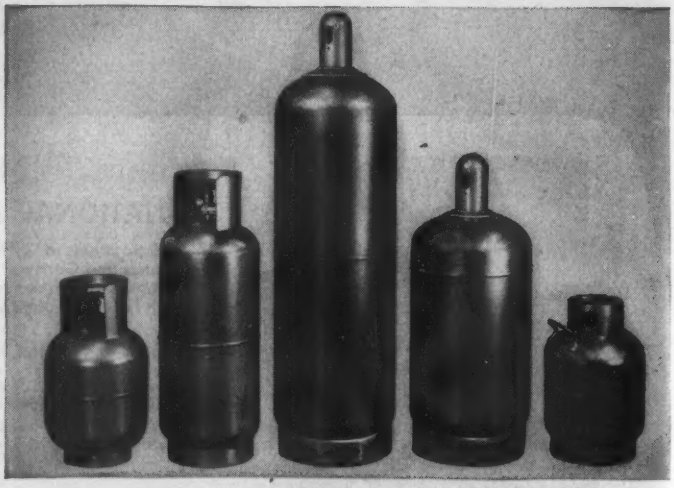


Superior anti-rust coating protects the cylinder bottom and interior of footring against corrosion—a valuable extra at no additional cost to you!

When it comes to LP-Gas cylinders, your wisest, most economical investment is in the PREST-O-LITE Brand. For PREST-O-LITE Cylinders combine unsurpassed quality, low cost, and attractive appearance to satisfy the exact needs of LP-Gas users everywhere.

PREST-O-LITE Cylinders are rugged and sturdy for long, dependable service life. They're lightweight for easier handling at lower expense. Factory testing is in excess of requirements to assure maximum safety and performance. Every PREST-O-LITE Cylinder is deep-drawn to extremely uniform wall thickness. Durable aluminum enamel protects the cylinder finish indefinitely and reduces repainting costs.

For further information write or 'phone your nearest LINDE Office today. Ask for free booklet F-8187.



PREST-O-LITE *Cylinders are available in the popular 20-lb., 40-lb., 60-lb. and 100-lb. capacity sizes, with or without valves. Other styles can be made to order.*

The terms "Linde" and "Prest-O-Lite" are registered trademarks of Union Carbide and Carbon Corporation.

LINDE AIR PRODUCTS COMPANY
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Solid aluminum alloy tank! Cannot produce rusty-red water!
Priced comparable to lined-steel-tank types!

Sensational new RUUD ALCOA® ALLOY Automatic Gas Water Heater

A "natural" for the profitable promotion of water heaters—*and* the thriftiest fuel they can use—Gas. Here's the most dramatic combination of top quality and moderate prices in water heater history!

Unprecedented value! A solid aluminum alloy tank that can't produce rusty-red hot water, in a quality unit priced competitively with ordinary lined-steel-tank water heaters! Outlasts, outperforms any other water heater at or near its price. Safely stores water at 180°. *Laundry-Rated* to keep pace with any automatic washer made.

Recognized quality—backed by the combined skills and resources of two leaders in their fields. RUUD . . . America's oldest manufacturer of quality water heaters, and ALCOA . . . world's largest producer of aluminum.

Two-temperature conveniences! Optional RUUD duo-temp feature delivers two hot water temperatures from the same tank at the same time: Extra-hot water for automatic washers; 125° tap-safe water for bath, shower and lavatory.

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☐ Mail further information on new RUUD ALCOA ALLOY Gas Water Heaters.

NAME_____ TITLE_____

BUSINESS NAME_____

STREET_____

CITY_____ ZONE____ STATE_____

This typical LP-Gas installation in Illinois uses Armco Steel Buildings for warehouse, pumphouse, office and living quarters.

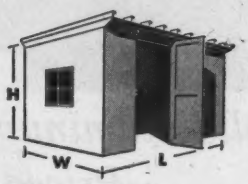
Which of These 3,442 Building Sizes Meet Your Needs?

By actual count, there are 3,442 different standard sizes of clear-span Armco Steel Buildings up to 40 feet wide and 200 feet long. But the total number of standard Armco Buildings available is even more. One reason is that building lengths are practically unlimited. Another is that Multiple-Span Armco Buildings provide a structure of almost any width or length. From this selection it is *easy* to choose a steel building that will *exactly* meet your size requirements.

A feature of these Armco Buildings is the STEELOX panel construction. Each panel provides both structural support and a smooth exterior. Building assembly is a simple matter of fitting these interlocking panels together. They are used on roofs and sidewalls, and eliminate framing, sheathing and rafters. Erection goes fast, even for a small crew without previous experience.

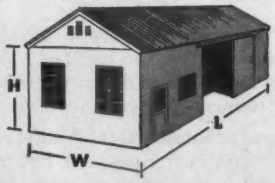
You can specify these buildings with confidence. Armco has manufactured steel buildings for more than a quarter of a century. Thousands are in use today, all over the country. And wherever you are, there is an Armco plant and sales office near you for easy ordering and fast delivery. Write us for data on the size of building that interests you. Armco Drainage & Metal Products, Inc., 4515 Curtis Street, Middletown, Ohio. Subsidiary of Armco Steel Corporation.

Height: 6'-8" to 10'
Width: 4' to 12'
Length: 5'-4" to 24'



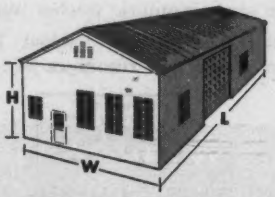
SERIES S—TYPE 1

Height: 8' to 20'
Width: 8' to 28'
Length: Unlimited, in 16" increments



SERIES S—TYPE 2

Height: 10' to 20'
Width: 40'
Length: Multiples of 20' or 32', minimum 40'



SERIES S—TYPE 3

Note: All widths are clear-span. Lengths cannot be less than widths.

Armco Steel
BUILDINGS

Performance Proved on LPG

In The World's Largest Outdoor Liquid Meter Test Laboratory

Engineer calibrates Rockwell "760" meter for measuring liquid propane.

ROCKWELL "760"

Liquid Propane Meters

And Complete "Packaged" Dispensing Units

Rockwell "760" meters are now laboratory tested for accuracy and durability on special LPG meter runs in Rockwell's huge new outdoor test station. Actual service conditions are duplicated. LPG is the testing medium. Nothing is left to chance. You know *for sure* that the Rockwell meters and accessory equipment you order for trucks and pump outlets will perform up to specification when installed. It's another good reason why you can rely on Rockwell for all your liquid fuel accounting.

Write for bulletin.

This meter has an outer case of special ductile alloy iron. It meets the safety standards of all state specifications and is listed by Underwriters' Laboratories.

ROCKWELL MANUFACTURING COMPANY Pittsburgh 8, Pa.

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Look under the hood!

On now – Truck Event of the Year –

HOODS UP SHOWDOWN!

A new type short-stroke engine design is revolutionizing truck performance. Ford, and only Ford has it in every model!

It's the automotive news of the year! First the car industry goes short-stroke V-8. Now the truck industry begins to follow suit. Small wonder! This new engine design increases piston ring life up to 53% . . . saves up to 1 gallon of gas in 7 . . . reduces engine friction as much as 33% for *more* usable power . . . gives longer engine life.

Short Stroke power to deliver heavy loads faster—economy that keeps operating costs low. New Ford F-600 gives you a choice of two money-making, Short Stroke V-8's . . . the 132-h.p. and 140-h.p. *Power King* engines. GVW up to 16,000 lbs., GCW up to 28,000 lbs.

Ford—pioneer in V-8 truck power—has had Short Stroke V-8's on the road for three years. Today, *only* Ford offers an "on-the-job" tested, money-saving Short Stroke engine in *any* truck model you choose . . . with 4 Short Stroke V-8's and a Short Stroke Six.

Look under the hood! Be sure your next truck doesn't have an old-type, *long-stroke* engine that may be outdated before it earns its keep. Get the facts at your Ford Dealer's Hoods Up Showdown . . . now!

FORD Triple Economy TRUCKS

THE MONEY MAKERS FOR '55

Here's what we mean by valve *protection*

It goes without saying that the sturdy steel housing on all Scaife FueLPack systems is designed to protect valves and accessories against mechanical damage. But equally important the FueLPack housing protects valves and accessories against the weather. Even after prolonged exposure under freezing conditions they remain free of ice and snow. The result: easier, faster servicing,—longer service life—less maintenance.

Valve protection is just one of the many advantages found in the new EA-500 A FueLPack Systems. Other important features are:

- **Fuel-Level Inspection Without Unlocking Cover**
- **Easy-to-Read ASME and Other Data**
- **Extra Strong Lifting Lugs**
- **A Lightweight, High-Strength Steel Tank**
- **Fast Truck Delivery from Field or Factory Stocks**

WRITE FOR THIS HELPFUL BOOKLET NOW!

It gives you detailed information on the Scaife line of FueL-Pack LPG systems.

EVERY FUELPACK CARRIES A WRITTEN GUARANTEE

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Please send me a free copy of your folder, "Scaife Above Ground Tanks."

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Company_____

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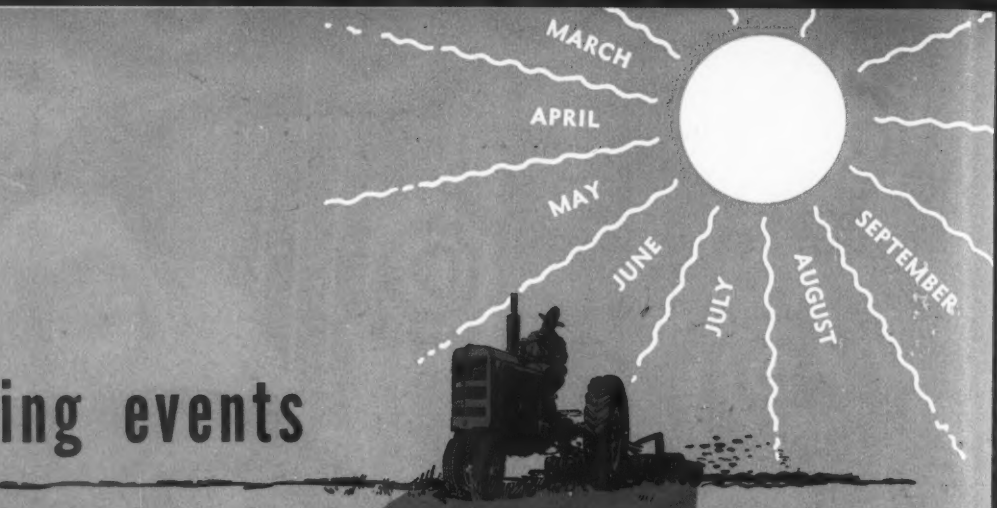

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COLUMBIA, SOUTH CAROLINA
TAMPA, FLORIDA

WARREN PETROLEUM CORPORATION • Tulsa, Oklahoma

LETTERS

Heating Chicken Pens

Kansas

We have a customer who is planning an individual nest or pen for 1500 laying hens. The building is metal, 44 x 40 with a 7 ft ceiling above the pens. There are insulated sides and ends.

The customer would like to maintain a temperature between 35° and 40° in the winter. We estimate a 123,200 Btu heat loss. Would two 65,000 Btu suspended heaters do this job?

W.L.H.

Is this 65,000 Btu the rated input of the heater or its output rating? We are inclined to believe it is the input rating. This would provide 65,000 × 2 × .80 = 104,000 Btu heat to the building.

You should have not less than 130,000 Btu output or heaters with a total input rating of not less than 162,500 Btu per hour. The above is based on 80% efficiency of the unit heater.

Due to the almost square shape of the building and relatively low roof, it is believed that four smaller units would do a better job of heating than two larger ones. —Ed.

•

Metal Melting

Australia

Can you give us any information in regard to thermostatic control—or any control other than manual—of metal melting pots for use in connection with tinning and re-metaling of connecting rods?

We have had an inquiry from a small firm wishing to make use of three 8-in. pots.

H.S.

We do not have any specific equipment or technical articles to which we can refer you which would describe the application of automatic temperature controls to metal melting in the melting pots which you describe.

However, we know equipment is available in this country and undoubtedly is in your country. Such melting pots are often supplied with rather simple temperature controllers which either throttle the gas supply to the burners, or control by turning the gas supply on and off. Of course, the burners are furnished with pilot lights and 100% safety shutoff of the fuel supply in case of the pilot light failure.

Depending upon the metal temperature the controlling pyrometer may use either a thermometer type or thermocouple type of temperature sensing device. The controller then causes a motor valve to close or open in the gas line, depending upon the requirements.

There are several advertisers in **Butane-Propane News** who can supply suitable equipment for the service you contemplate.—Ed.

•

May Be Poor Combustion

Alabama

We have two unvented space heaters in a bulk oil office. In rooms adjacent to this office are stored paints, oil, and other supplies. The doors to these storage rooms are kept closed and rooms unheated. Upon lighting the heaters each morning, we get a very unpleasant odor or fumes which burn the eyes. However, after about two hours' operation, the odor disappears.

We would appreciate it if you could give us any information as to the cause of this.

W.A.M.

It seems that the unpleasant odor and fumes which burn the eyes may be due to an improperly designed and/or adjusted heater. The orifice may be oversized and there is more fuel entering the heater than it can handle.

The odorous and eye smarting fumes are incomplete products of combustion. This can be caused by the impingement of the flame on some cold surface which arrests combustion and forms some carbon, hydrogen, oxygen compounds of the aldehyde famliy, one of which is formaldehyde.

Since you say the condition lasts for an hour or two, it appears the trouble is more likely to be poor adjustment. Too much air will cause the flames to lift and produce an odor, or too much gas for the burner to handle will also cause bad odors. Does the condition continue until the heaters bring the room to temperature and then clear up when they are turned down? If so, it would seem that the orifice is too large, the gas pressure too high or the burner and combustion space does not receive adequate air.

It is possible that some fumes enter the office space from the oil room and are affected by the heater. The oil room should be well ventilated and in such a way that the fumes escape to the outside and are not forced into the office room by a draft.

Are the heaters AGA approved? If they are not, they may be poorly designed and combustion is arrested or incomplete because of poor combustion chamber design. —Ed.

•

Heat for Mining Camp

British Columbia

We are contemplating the installation of a large number of heating units in buildings for a base metal mining camp. The buildings are situated in three separate groups, which necessitates the installation of three propane storage tanks. We propose one 2000 US gal. tank at each location.

We would like to know if tank vaporizers would be required on all, or some of these tanks, in order to supply sufficient gas at the proper pressure. Also, if it is more satisfactory to use two-stage regulation. We assume two-stage regulation is the more efficient, although when drawing a heavy load, the second stage regulators cannot supply as much gas with a low inlet pressure of from 10 to 15 lb.

Also, what size pipe should be used with two-stage, or for the high pressure line? We propose to use ¾-in. black iron. Will this be large enough?

One tank will supply four buildings. The first two buildings are 115 ft from the storage tank. Total load each is 220,000 Btu per hour. The third building is 136 ft from the tank, total Btu load 100,000. A fourth building is 212 ft from tank, total Btu load 270,000.

The second tank location supplies four buildings also. The total Btu load of these four is 1,100,000. The building layout is relatively the same as for No. 1, with one main line proposed and each building taken off in succession.

"You can't beat this Sinclair hand"

The deck is definitely stacked in your favor when you deal with Sinclair. Every tank-load of SINCLAIR LP-Gas puts you out front with the five famous Sinclair extras – INTEGRITY, REPUTATION, QUALITY, PERFORMANCE and GOOD SERVICE. You get the kind of a hand that adds up to more satisfied repeat customers – and a faster-growing, more profitable business for you.

Find out about this top quality LP-Gas with high heating value – with moisture and impurities removed . . . then, switch to Sinclair, soon.

SINCLAIR a great name in oil

SINCLAIR OIL & GAS COMPANY

Liquified Petroleum Gas Sales Department • Sinclair Oil Building, Tulsa, Okla.

A third tank supplies two buildings, with a main line going to each from a central location. One building draws 405,000 Btu per hour. A second building draws 265,000 Btu per hour.

As mentioned, we propose using two-stage regulation, with second-stage regulator installed inside each building to be heated. (Rego. No. 2503, using ¾-in. main line piping.)

Winter temperatures drop to 35° below zero at odd times but usually only for very short periods. The average low is about 15° to 20° below zero.

F.D.P.

We believe the two-stage system will give most satisfactory service. However, care must be used in selecting and providing both low pressure and high pressure regulator capacity.

As you pointed out in your letter, the low pressure regulators you plan to use have much less capacity at low inlet pressure, and it is suggested that the high pressure portion of the system should be operated at as low a pressure as possible, say about 5 lb. Regulators may be manifolded to increase capacity. Remember, there are times when the tank pressure will be down to nearly 5 lb and the high pressure regulator must be adequately sized for a low inlet pressure, too.

You mention that you plan to install the second-stage régulator inside the building to be heated. Be sure the vent opening is piped to the outside of the building in each case where this is done.

We suggested that you contact your regulator supplier to recommend the proper size regulators to handle both your high and low pressure needs.

The ¾-in. high pressure lines seem adequate in all cases except for location No. 2 which you describe. Even here it may be adequate but we believe it would be better to use 1-in. steel pipe betwen the tank and the take-off for the first two buildings. Additional pipe length should be added for elbows, tees, valves, etc. See Table 1, Section 3, Part 8 (Appendix) of the "Handbook Butane-Propane Gases" for proper allowances to be added for various fittings. The 1951 printing of the handbook includes pipe sizing tables for both high pressure and low pressure gas piping in the same section.

So many factors influence the rate of vaporization in a storage tank that it is difficult to tell if they will handle a specified load during periods of heavy consumption. The vapor pressure of propane at —35° F is only 3.4 lb and at 15° it is 13.6 lb. Generally, the temperature of the liquid in the tank will lag the ambient or atmospheric temperatures both while it is falling and when rising. However, a heavy pull on the tank vapor supply will draw heat from the liquid to vaporize and hasten the temperature drop of the propane. With a heating load, the heaviest pull is always during the coldest weather. In order to vaporize fast enough for the demand on each of the above tanks, they would need to be kept at least one-half full of liquid during the colder weather. The rate of heat transfer depends on the amount of inside tank surface in contact with liquid and as the tank drops below the one-half full mark, the "wetted surface" decreases rapidly and consequently the rate of heat transfer.

We believe you should protect this customer with vaporizers, although they may be needed only a few weeks per year.—Ed.

•

Best Way to Deliver

Connecticut

We are seeking information on tank truck delivery vs 100-lb cylinder delivery. Our present system is delivery by 100-lb cylinder and with large users we manifold several cylinders together. It is our belief that delivery by tank truck would be cheaper, as we would save on hoods, regulators, etc.

Do you have any information on both types of deliveries? Also what size truck should be used, size of storage tank and any information as to comparative cost of both types of installation?

M.F.

We are enclosing tear sheets of Chapter 11 of a series entitled "Practical Management of an L. P. gas Business." This chapter discusses "Package or Bulk Sales—or Both?" We believe it will help answer many of your questions.

We suggest you approach the manufacturers and suppliers of bulk storage tanks and transport trucks in your area, or some of those who advertise in **Butane-Propane News** to establish the cost of equipment delivered to your area.

Prices vary so greatly throughout the country because of freight rates, labor costs, etc., that it is difficult to supply accurate comparative figures.—Ed.

•

Heating Problem

Connecticut

We are in the process of constructing a new building for spray painting of 100-lb cylinders. We desire to incorporate a heating system so that we can have year-round operation of painting and maintenance of our equipment.

The type of heating that will be best for us has posed a problem. We want a system which will be quick to respond so that we can leave it off when not in use, yet one which will be completely safe. We are thinking of the propane vapors which will be in the air. We can locate a furnace in a separate building for safety purposes.

L.S.H.

There is a heater available which can be installed in an outside wall. This heater draws all the air for combustion from the outside and discharges the products of combustion to the outside. The only possibility of paint fumes reaching the flame is through a crack in the combustion chambers or an opening in the wall near the heater.

The name of this heater is the "Safaire" and it is manufactured by Stewart-Warner, U. S. Machine division, Dept. AT-114, Lebanon, Ind.

The safest type of heating unit that can be used is the steam or hot water heated radiator or suspended heater system. The open flame boiler or water heater to supply the heat is in a separate room or building where paint vapors cannot reach it. The motor drive, thermostat and other switches located in the paint room should be explosion-proof type.

Most companies which manufacture the suspended type direct-fired heaters also manufacture those for steam or hot water. —Ed.

•

Play Safe

North Dakota

We have a customer who heats a building with L. P. gas. Would it be safe for him to dope the wings on his plane in the same building?

D.G.C.

We do not know what chemicals or other products are contained in the "dope" your customer uses on the wings of his airplane. It is presumed, however, that some highly volatile and inflammable compounds are included. In this case neither propane, nor any other fuel which depends on an open or exposed flame, should be used in the building while the "dope" is being applied, nor afterwards until the building is well ventilated and there is no longer any danger of inflammable fumes collecting there.

Read the complete directions on the container in which the manufacturer sells the product. The label will contain precise instructions regarding use of the product in the presence of open flame, or in closed rooms, if there is danger.

It is best to provide indirect heating in a building where work of this nature is performed, or where equipment containing inflammable fluids is stored. Propane-fired water heaters or boilers housed outside the buildings with radiators in the building is a good method to follow where there are such hazards as mentioned above. Also, every light switch or other electric device must be considered a source of ignition, and should conform to the state code for hazardous locations.—Ed.

wherever you may be . . .

To be a successful distributor or dealer of LP-Gas products you need assurance of dependability — certainty of supply, on time deliveries and the highest LP-Gas quality. A contract with Tuloma Gas Products Company brings you this dependability. Wherever you may be, if you are a Tuloma contract customer, you are assured of ample, dependable supply of highest quality LP-Gas, delivered — on time — from over 30 different supply points by the ever multiplying fleet of Tuloma tank cars. Be certain you have quality LP-Gas when you need it — contract with Tuloma today !

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MARCH

BPN Beyond the Mains

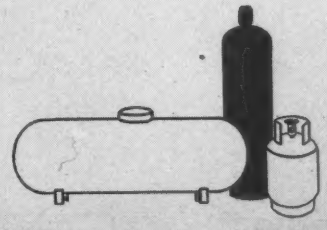
THERE ARE WORKERS WHO JUST WORK, AND WORKERS WITH VISION. Do you remember the old story about the three workmen who were digging a big hole in a vacant lot? A passing stranger asked each one what he was doing. The first replied, "I'm digging a hole." The second said, "I'm earning a day's pay." The third looked up at the sky and answered, "I am building a cathedral."

In our work as salesmen it is a good idea to pause now and then, and consider what it is that we sell, not in terms of merchandise, but as the customer sees it, in terms of results. Perhaps we can catch something of the ditch digger's vision of where we and our labors fit in the great scheme of life.

THE BEST AND MOST VALUABLE PART OF WHAT WE SELL is not carried on a truck, and does not show up in an entry on the ledger. It is not merchandise in any sense of the word, but it is the reason why every customer buys everything that we sell. It is difficult to describe this extra ingredient in words, because it is highly intangible. The clearest summation that has been offered is "better living."

We deliver a heater -- it consists of panels and reflectors and a burner and valve, and we connect it to a gas line. The customer does not have just a heater. She has comfort, warmth, cheer, cleanliness, freedom from work, and better health for her family.

We deliver an automatic range, and she has much more than oven, broiler, and cooking top. She has convenience, saving of labor, better food, freedom from fixed hours in the kitchen. She has sparkling beauty, and the justifiable pride that is such an important part in a woman's happiness.



Continued . . . ⟶

We sell a water heater -- an insulated tank with a vent, burner, pilot, and automatic control, a means of getting hot water at the opening of a faucet. The hot water is only a means to an end. Ample hot water gives her clean clothes, clean dishes, clean kitchen, clean family, and all kinds of comfort and sanitation with less labor.

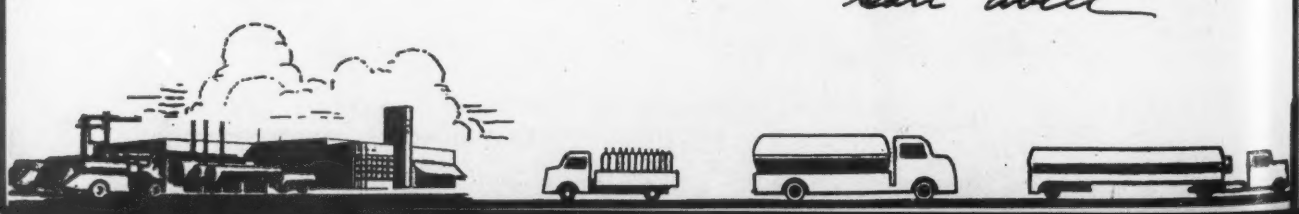
We sell a tractor conversion -- an assembly of steel, cast iron, aluminum, copper, brass and synthetic rubber. It goes on the tractor with so much labor, and it shows on the books at so much money. The farmer does not buy it to burn propane instead of gasoline, or to satisfy his scientific curiosity. He buys it so his source of working power can be in the field more, and in the repair shop less. He buys it to get more work done in less time, and to reduce the cost of doing his work so his profits will be higher so he can buy more of the things that make life easier and better for him and his family.

WE SELL TANGIBLE PRODUCTS, BUT THE CUSTOMER BUYS INTANGIBLE BENEFITS. Too much selling is uninspired because the salesman has run out of inspiration. His vision has been drained until he talks of things that cost money, instead of benefits that are worth money. We need to rise above the narrow view of our businesses in terms of merchandise and accounts, services and delivery problems. We need to keep fresh the vision of better living that comes to the users of our products. We need to sell the emotional, intangible values of our goods and services.

The greatest creative salesmen of our age are those who sell intangibles. Insurance salesmen do not sell policies -- they sell protection and security for our loved ones, and college educations for our children. Investment salesmen do not sell bonds and shares -- they sell income and the desirable things that income will buy. Ministers do not sell churches -- they sell peace of mind, courage, and assurance for the future. And the good real estate salesmen do not sell houses -- they sell homes and the great human aspirations centered in the home.

THERE ARE FEW PEOPLE IN ANY LINE OF BUSINESS WHO CAN OFFER AS MUCH VALUE IN TERMS OF BETTER LIVING AS WE OF THE L. P. GAS INDUSTRY. Let's sell better living with vision and enthusiasm, and get more merchandise moving off the floor, and more gas through the storage tank.

Earl Abell



sales support

for Norman heating dealers

Ever try to sell new home buyers on the space-saving advantages of the Norman Southerner?

An extra closet... more space in the basement... larger rooms on the first floor... a new freedom of design for more comfortable living and lower building costs, besides.

Sounds terrific! But how do you SHOW her that this compact horizontal gas furnace provides more room for living in her new home? One demonstration of the Norman Sketchbook does the trick! A wonderful new sales presentation with actual sketches of different homes and floor plans that show where the Norman Southerner is installed. It's right there... as though the builder or architect sketched it for you.

You'll want to be one of the first to get your copy of the Norman Sketchbook. It's available in a handy promotion folder with all the material you need to sell the Norman Southerner to your builders and new home prospects. Write for your copy today!

Hitch your furnace sales to this exciting new Norman Sketchbook!

New local advertising package

Another big promotion for Norman heating dealers. A complete package of advertising and sales promotion material ... including local newspaper advertising mats. Send for your free copy today!

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1000 LB. LIGHTER

. . . fills twice as fast as most single barrel LP Gas Units of same capacity!

This Butler Big-B LP Gas transport carries 27% more payload — 6,595 gallons (W.C.) — than twin-barrel units operating under the same gross.

Today's most progressive transporters know the spectacular increases in profits possible with single-barrel LP Gas transports. These X-rayed, stress-relieved units carry far more payload than double-barrel transports.

The transport that others can only copy—Many manufacturers thought X-raying and stress relieving was as far as they needed to go in boosting payload. But, Butler engineers spent hundreds of hours eliminating dead weight and designing with closest possible adherence to ASME codes. As a result, a transporter in one state now hauls an 8,058 gallon (W.C.) payload where he formerly could haul only 5,600 gallons.

Butler engineers also cut loading time in half—to help you earn revenue as many hours as possible.

Don't sacrifice a single gallon of payload! Get a personal report from your Butler representative on why you earn more with the Butler single-barrel—the transport that others can only try to copy.

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FLAMING

Photo: Manchester Welding & Fabricating Co.

Burning early in the season kills and clears weeds from rights-of-way, protecting against fires from cigarettes later in the season.

Agricultural Flaming Is a Fast-Growing New Market for LPG

By Carl Abell • Editor

Agricultural flaming equipment with its myriad of uses . . . control of weeds and insects in crop rows and along ditch banks, cultivation, burning spines from cactus and destroying juniper brush in pasturelands . . . is a good load balancer for the LPG distributor, because fuel is consumed during the summer, when the winter heating load is off. Both the specialized burning equipment and the single flame thrower provide a substantial market for liquefied petroleum gas.

ONE of the most rapidly growing new markets for liquefied petroleum gas is in agricultural burning operations. The development of new torches and flame throwers for these uses is opening up a tremendous field in the control of weed and insect pests and other farm applications of heat.

The use of flame for the control of weeds and insects is not new. As far back as 1939 there were reports of a Mississippi plantation owner, Price McLemore, who developed a burner system to attach to a tractor with which he burned the newly emerged weeds out of the rows of cotton plants on his plantation in the Yazoo river delta. This particular application of agricultural burning has been only moderately successful, partly because of the rather complicated na-

Ditches and fence rows can be kept free from weeds with a portable L. P. gas hand torch. In addition to reducing weed development, burning destroys harbors for insects.

ture of the operation and partly because climatic conditions must be exactly right in order that complete success may be achieved in the control of the weeds.

Experience with the early flame cultivators in the cotton fields did demonstrate conclusively that under favorable conditions both weeds and insect pests could be controlled better and at less cost than with the customary methods. It also showed that under favorable conditions one piece of flaming equipment could take the place of a great many hand laborers.

Some of the earlier agricultural burners operating on oil gave unsatisfactory results because they left a damaging coat of oily residue and soot. This had a harmful effect on the crops that it was intended to protect, and in burning cactus spines it sometimes rendered the cactus leaves unpalatable, so the cattle refused to eat them. The clean burning of propane eliminates these disadvantages.

During the past four or five years a great many new pieces of agricultural burning equipment have been developed for specialized applications and many of these have been outstandingly successful. L. P. gas distributors have been particularly interested in these agricultural applications because the fuel consumption comes mostly during the growing season when the winter heating load is off and there is particular need for additional outlets to increase the summer gallonage and balance the winter-summer ratio.

Reports of fuel consumption in some of these agricultural burning operations are little short of fantastic, and yet in spite of the high fuel bill, some of these operations are doing a better job at lower cost than with any other available means.

An alfalfa flamer covering an 18-ft swath burns from 40 to 50 acres per day, giving better control of both weeds and insects than chemical controls; operates at less than half the cost; and consumes from 40 to 50 gal. per hour of L. P. gas. One custom operator is reported to have burned 20,000 gal. of fuel in one month.

Ditch bank burners used in clearing the vegetation off large irrigation ditches and canals in the irrigated section of the West are consuming from 70 to 125 gal. per hour. One of these big specialized machines, drawn by a tractor or four-wheel-drive truck, is able to clear from 5 to 8 miles of canal in a day, doing work that formerly required from 20 to 25 men, at a cost of less than 15% of that of hand operation.

Down in Texas they tell us they are marketing three-year-old steers that have never seen rain. These animals grow on prickly pear cactus from which the thorns are burned with a single-burner flame thrower. One dealer in a small west Texas town reports that he is supplying half a dozen cattle raisers and putting out 60,000 gal. per month for use in burning the spines off cactus.

Not all agricultural use of flame is on such an extensive scale. Practically every farmer in every agricultural area can make profitable use of a small hand-type burner consuming from 5 to 12 gal. per hour while in use. Manufacturers of the torches report a very rapid increase in demand for these units. Depending on the amount of fuel required to do the necessary burning, these are operated off trailer cylinders, 100-lb domestic cylinders, tractor tanks, pick-up tanks, or special trailer-mounted tanks ranging as high as 250 gal.

It is believed that, except in certain limited areas where there is special need for the large field burning and ditch bank burning outfits, these little units will be the greatest consumers of fuel and that, as the knowledge of their use increases, these burning units will provide a substantial portion of the summer agricultural load.

New agricultural uses for the flaming equipment are being reported almost every day, and in addition to the agricultural uses, we find that they are used for such related projects as clearing weeds off airports, controlling weeds and insects on golf courses, clearing parkways and vacant lots in town, setting back-fires in the control of forest and brush fires, burning the slash piles in lumbering operations, and clearing vegetation off the shoulders of highways as protection against fires caused by throwing lighted cigarettes on the rights-of-way.

One of the latest uses to be reported, which may become a matter of considerable importance in the rangelands of the West, is the control of juniper brush which has been encroaching on the western pasturelands. This has been a serious problem as the growth of the juniper has been converting areas which were once lush pastures into great unproductive wildernesses, both by using up the available moisture and by shading the ground so that the normal herbacious plants which provided the pasture can no longer grow.

The following discussion covers some of the principal agricultural applications for flaming with L. P. gas. In these cases specialized burning equipment has been developed or hand burning with a single flame thrower is commercially applicable.

Agricultural Applications for Flaming →

FLAMING

One Pass of the Flaming Machine Can Clear an Alfalfa Field of Injurious Weeds and Insects

ALFALFA fields become infested with various types of broad-leafed weeds and grasses, most of which start growth early in the spring. When these infestations become bad, the weeds grow faster than the alfalfa and constitute a high percentage of the first cuttings. The value of the hay is greatly reduced by the high weed content.

In some areas the alfalfa plants also carry a number of serious insect pests, including aphis, weevils and grasshoppers. The aphis and weevils spend the winter in or around the crowns of the alfalfa plant where they are ready to multiply into serious infestations when the growth of the alfalfa is resumed in the spring.

Some Use Chemicals

Many alfalfa growers are controlling both their weed and insect pests by chemical treatment. This requires two separate sprayings, one with a selective weed killer and the other with an insecticide.

There is a critical period of a few weeks duration in the spring when a severe burning of the entire surface of the field kills most of the weeds and insects with a single pass of the flaming machine. This has proved to be more economical than chemical treatment and it generally results in a more thorough kill of both the weeds and the insect pests. The alfalfa sprouts are singed to the ground while the weeds and insects are being killed and this results in a stimulation of the root system and increased sprouting of the alfalfa. There is a noticeable increase in the tonnage of hay produced in the first cutting and, since it is clean and free from weeds, the market value per ton is higher. Many growers report that the cost of the flame treatment is more than returned in the extra profits on the first cutting of the season.

In some areas there are other plant pests which come along later in the season and these are controlled by flaming, sometimes after the first cutting and sometimes after the second cutting. Included among these pests are the sandburrs, puncture vine, fox tail grass, and dodder.

Growers of alfalfa seed find that flaming to control weeds results in the production of more seed of higher grade because of lower weed-seed content. Reports indicate a gain of from $5 to $30 per acre in net return.

In the irrigated areas, another great advantage is reported following the preliminary burning of the fields. Most of these fields are irrigated by flooding, and since the rubbish that lay on the ground over the winter is consumed in the flaming operation, the water flows through the vats faster and there is a considerable saving in irrigation time and in the amount of water required to cover the field adequately.

Booms on Trailers

The alfalfa flaming machines consist of long booms mounted on the back of trailers which carry the fuel supply tanks, generally holding from 250 to 500 gal. The booms carry the burners, which are mounted close enough together to supply uniform burning heat up to 2500° F on the surface of the ground. These booms are generally either 18 or 26 ft long so the standard 50-ft-wide vat in the alfalfa field can be covered in either two or three passes.

These same alfalfa burning machines are applicable to the control of weeds on golf courses, airports, and the burning of trash and rubbish in other fields.

Alfalfa flaming machine covers an 18-ft swath in the field. Wings fold up for legal transportation over the highway.

Photo: Manchester Welding & Fabricating Co.

FLAMING

Ditch Bank Flaming Eliminates Clogging and Deposition of Silt

KEEPING the weeds, bushes and marginal water plants from choking the irrigation ditches and canals in the West has always been a serious and expensive problem. If these plants are allowed to grow unchecked, they soon encroach into the water, slowing down the rate of flow and causing deposition of silt, which eventually makes it necessary to go into the ditch and clear out the silt and debris by mechanical means. Masses of decaying plants cleared from the ditches sometimes break loose and drift in the stream, accumulating in gates, wires and outlets, sometimes damming up the flow and causing serious damage due to rising water.

Chemical control has not been satisfactory in keeping ditch banks clear for several reasons. If the vegatation killed by the chemical treatment remains on the bank, it eventually washes into the ditch and results in the clogging mentioned above. The water grasses which grow along the margin are not highly susceptible to chemical killing, and application of enough chemical weed killer to destroy the water grass frequently results in enough residual spray getting into the water to cause damage to the crops after the water is distributed in the field.

Flaming appears to eliminate most of these difficulties. The method generally followed is to turn off the water so that the ditch becomes empty except for small pools in the lowest spots. The flaming machine is then used, directing a portion of the flame into the bottom of the ditch where it develops a large amount of steam from the moisture on the surface and the remaining pools. The steam and the flame together kill the plant growth along the sides of the ditch, causing it to wilt and dry. A few days later the flaming is repeated to burn the dead vegetation to the ground. The roots are not disturbed, but remain as a dense sod to hold the banks and prevent erosion.

It is generally believed that the flaming treatment repeated at proper intervals will provide permanent protection against silting or filling of the ditch by erosion of the banks and this results in an important saving in water compared to mechanical clearing of the ditch after silting or erosion has taken place.

The normal flow of water through a ditch deposits enough silt on the surface to seal against excessive loss of water by saturation into the soil. Mechanical clearing of the ditch destroys this silt seal and water is lost in considerable quantity until the seal is re-established.

The dense growth of weeds along untreated ditch banks results in the dropping of a great many weed seeds into the water which flows into the fields and distributes the weeds among the crops. Burning out the weeds along the ditch banks before they make seed results in a worthwhile reduction in weed development in the irrigated fields, in addition to destroying the harbor for insects which the weeds would afford if allowed to grow there.

Control of Insects

Early-morning burning of these weed shelters results in the destruction of millions of pests such as grasshoppers, army worms, etc., and is in itself an important measure of control of insects in the field.

The most economical burning machines for large ditches and irrigating canals are mounted on tractors and trailers and travel along the bank with the multiple burner heads aimed at the areas to be burned. These machines represent a substantial investment and consume from 50 to 125 gal. of L. P. gas per hour. For every mile of ditches that these large machines can clear economically there are many miles of smaller laterals and field ditches which need to be cleared by means of smaller and lighter burning equipment. For these purposes a single flame thrower-type torch is ordinarily used and in most cases these are owned and operated by the owners of the land on which the laterals and field ditches lie.

With the extension of irrigation practices across the humid agricultural states, there are many hundreds of miles of new ditches which bring this weed-killing problem, and the resulting market for fuel, within reach of hundreds of other L. P. gas dealers and distributors.

Left: Weeds have choked irrigation ditch. **Right:** The same ditch is being cleared with flaming equipment. Burning weeds from ditch banks saves water and speeds its flow, prevents clogging, destroys insects, and keeps weed seeds from scattering into fields with water.

Photos: Agricultural Equipment Co.

FLAMING

Flame Cultivation Destroys Weeds, Does No Harm to Crops

"FLAME cultivation" is a term used to describe the operation of destroying young weeds in crop rows in which it is impossible to work with power-drawn cultivation tools. It is most widely used in cotton production, but it is also adaptable to many other row crops such as corn, sugar cane, soy beans and certain vegetables.

Its potential importance in cotton production is indicated by the fact that a five-row flame cultivator is able to do as much work as 50 workers using hand hoes. Comparative cost records are available in which complete mechanization of cotton production, including substitution of flame cultivation for hand hoeing, has resulted in production of cotton at only 11 hours of man-labor per bale, where the old hand-labor methods beginning with the one mule and driver, required 235 man-hours. After allowance for investment and operation costs for the mechanical equipment, the cost per bale of this cotton has been reduced by more than $50 and the yield per acre has been considerably higher.

Various plants, including the crops mentioned above, are able to withstand higher temperatures than many other plants. This characteristic is a function of cell structure, thickness of bark, diameter of stalk, and other factors. Most of the common farm weeds, when young, can tolerate less heat than the agricultural plants in the group to which flame cultivation is applicable. Hence, it becomes possible to apply sufficient heat to kill the weeds without harming the crop plants.

The weeds are not actually burned. The exposure to the flame merely sears the cell structure at a temperature sufficiently high to cause damaging loss of moisture or to induce later fermentation within the stalk, after which drying out completes the destruction of the weeds.

While a great deal of research and development work is still being done on flame cultivation, sufficient progress has been made to bring commercially produced and practical equipment into the market. The equipment consists essentially of a fuel supply tank, a vaporizer, a frame for mounting and spacing the adjustable burners, and the necessary connecting tubes and valves for adjusting the flames.

The burners must provide a high velocity flame. They are set to sweep the flame across the rows, striking the ground at approximately the base of the crop plants. Propane has proved to be the most satisfactory fuel for use in these flame cultivators. The flaming equipment is mounted on a tractor and driven through the field at the speed which secures the length of exposure necessary to kill the weeds but leaves the crops undamaged. Cultivators are nearly always mounted so the same trip through the field provides tillage between the rows while the flames are killing the weeds which the cultivator cannot reach.

Fields in which flame cultivation is practiced are noticeably free from cotton insects. The immature insects of these species which are feeding on the young cotton leaves are shaken to the ground by the passage of metal arms mounted ahead of the burners, so that the insects are caught in the flame along with the weeds. This accounts for a material reduction in the number of weevils and other insect pests that survive, which results in a lessening of the insect population later in the season.

A five-row flame cultivator, which can kill weeds in cotton fields, replaces 50 workers using hand hoes. Flame cultivation has helped in the production of cotton at only 11 hours of man-labor per bale.

Photo: International Harvester Co.

Strawberry flaming machine controls weeds and strawberry mites better than hand methods and at a fraction of the cost. Flaming device is similar to alfalfa flamer but built on a smaller scale.

FLAMING

Small-Scale Alfalfa-Type Flamer Helps Control Strawberry Mites

ONE of the most serious pests in strawberry culture is the strawberry mite. It is prevalent in practically every area where strawberries are grown commercially and is very difficult to control because it spends the winter not only in the strawberry plants but also in weeds and host plants which may be growing in adjacent fields. The insects migrate slowly from plant to plant, but during the early spring many of the young nymph-stage mites are airborne from sources beyond the outsides of the field.

Infestations sometimes spread very rapidly, weakening the affected plants and reducing the yield. The strawberry mite cannot be controlled satisfactorily with sprays or dusts as some of the insects are always down in the leaf sheaths where they are not affected by chemical treatment.

For many years, the principal method of control was for field workers to go along the plant beds about the time growth started in the spring, cutting off all exposed portions of the strawberry plants with a knife. This is tedious, backbreaking work, and seldom results in a complete kill.

Strawberry Mite Control

Flaming devices similar to the alfalfa flamer, but built on a smaller scale to cover one or two beds of strawberries, are now in use for the control of strawberry mites. These machines are drawn through the fields early in the growing season about the time the plants begin to make new leaves. The burning is severe, as it is necessary to raise the temperature of the insects to approximately 120° F to insure killing.

The flaming also removes all vegetative debris in the field and kills the early weeds, thus eliminating the hand weeding which is otherwise necessary early in the season. Burning has proved to be the most effective means of controlling strawberry mites, but the kill is never complete and there is always the possibility of new infestations from colonies in host plants outside the field. For this reason it is generally necessary to repeat the burning at the beginning of each season.

Onions

ONION thrips have caused great damage throughout large growing areas. Like the strawberry mite, they are very difficult to control chemically because the structure of the onion also provides hiding places for them which are almost impossible to reach with chemical sprays or dusts.

Early attempts to control thrips by flaming the onion fields were unsuccessful because the burning was done too early in the growth of the plant, resulting in the killing of a high percentage of the onions. It was later discovered that allowing the onions to grow until the stocks are about the size of a wooden pencil and then burning the fields severely enough to get rid of the weeds and wilt the onion tops to the ground had very beneficial results in addition to offering effective control of the thrips.

The shock resulting from the burning causes the onion to root more heavily, and this appears to enable the onions to grow to larger size and more perfect form. The result is a heavier crop of onions with a higher percentage of bulbs in the top market grade.

The burning of the weeds at the time the onions are burned also results in a substantial savings in labor costs and a cleaner field throughout the season.

Potatoes

FLAMING has been carried out with very satisfactory results in connection with the harvesting of potatoes. The plants in a potato field do not all mature their crop at exactly the same time. The quality of potatoes will be impaired if they remain too long in the ground after the plants have died. On the other hand, potatoes would be immature if dug while the tops were still alive.

The entire crop may be brought to maturity very quickly and prepared for harvesting by running a flaming machine over the field as soon as the majority of the plants have matured and wilted naturally. Killing of the remaining tops by heat also gets them out of the way when the harvesting machine goes through and facilitates continuous operation of the diggers without the necessity of stopping to clear out the debris from the mechanical parts.

FLAMING

De-Spined Cactus Replaces Dry Pastureland Ranges In West Texas Area

DURING the past few extremely dry years, the cattle industry on the west Texas ranges would have practically passed out of the picture had it not been for propane. The rainfall has been too scanty to produce normal range growth of annual forage plants, but a very valuable substitute has been found in the prickly pear cactus.

The cactus leaves are succulent, containing much moisture and high food value, but they are protected by a growth of clusters of long stiff thorns. The cactus plants grow in large clumps which are impenetrable and inedible as long as they have their natural thorns. These can be burned off very effectively with flame thrower-type single head torches operating on propane.

Today's principal chore for the western cowboy is to take a jeep or tractor out into the pasture, either carrying or trailing a large propane tank. An unmounted cowboy handles the torch, which is connected to the tank by a long hose. When the flame starts to roar the cattle begin to congregate to get their day's ration of de-spined and fried cactus leaves. Some ranchers say that the cactus diet produces more and better beef because the animals do not have to graze so far to pick up their day's provisions.

The consumption of fuel for cactus burning has been tremendous. It is quite probable that some additional gallonage could be obtained in areas not so drouth-stricken as west Texas, as there is extensive growth of prickly pear cactus in many other range areas throughout the west.

While the cattle would probably pass up cactus as long as there is green grazing on the ground, it has been demonstrated that cows will eat de-spined cactus leaves in combination with dried pasture grasses.

Prickly pear cactus is succulent food for cattle, containing much moisture and high food value, but it is protected by stiff thorns. Thousands of acres of the cactus are converted from waste to useful feed by burning off the thorns.

FLAMING

Flaming Kills Sandburrs and Puncture Vines

FOLLOWING the widespread development of aviation, sandburrs and puncture vines, which were formerly confined to limited areas in the West, have been spread far and wide. It is believed that the principal factor in this spread started with the growth of the vines on dirt runways in the early aviation fields. The sharp points of the seeds became imbedded in the airplane tires and were carried aloft, dropping from the tires in flight or being knocked off on landing. Thus the seeds were transported from one airfield to another and dropped on the fields, farms and villages along the routes of the planes.

Today there is hardly a town in the West that does not have a sandburr problem in the yards, vacant lots and parkways. These vines can be killed very easily with a torch while they are young and tender. The seeds cannot be killed with ordinary application of heat as, like most other seeds, a temperature of 400° for a rather prolonged period is necessary to make sure that germination cannot take place.

The seeds will live for several years without sprouting if allowed to lie on top of the ground and will then sprout quite readily after being buried. Burning is the most effective and economical way to control large infestations, after which a little vigilance with the hoe will take care of the scattering plants that come up in later years.

In large areas such as airports and along highway rights-of-way it is recommended that treatment be given early in the year with the large power equipment.

Preliminary Tests Favor Flaming to Control Juniper Brush

TREMENDOUS areas of range land in the West are being overrun and their productivity sharply decreased by the overgrowth of juniper brush. If allowed to grow unchecked, the junipers develop into small trees, with the lower branches trailing the ground. The space occupied by the juniper is not available to provide pasture.

The government, operating directly and through range land improvement districts, is experimenting in the clearing of juniper brush by mechanical means. This has proved to be very expensive. Ranchers in the vicinity of Prescott, Ariz., have been experimenting in the burning out of juniper brush with the same type of equipment that is used for de-spining cactus.

The young juniper bushes are easily killed with a single treatment of the burning torch. It does not appear to be economical to kill the larger junipers with a single treatment, but a small portion of the bush of from 1 to 2 or 3 sq yd can be killed very quickly and left to dry. After a few days, this dry portion can be ignited with a torch and if the remaining growth is reasonably dense, the fire thus started will spread, burning the resin in the bark and on the twigs, and resulting in a high percentage of completely killed bushes.

If the results of this preliminary work are borne out in wide-scale tests, it is quite possible that the clearing of juniper and other forms of brush infesting the Rocky Mountain and Pacific range areas can become a very important market for propane.

Incidental Uses for the Hand Torch are Almost Unlimited

ADDITIONAL uses which will be found for hand torches in farming operations are almost unlimited in number. They offer the fastest and most economical means of clearing weeds, brush and other growth out of fence rows, ditches, edges of fields, and along driveways, or wherever else weed growths might provide seeds to infest the crop areas or harbor for damaging insects.

Burning these areas at the strategic time will frequently aid in effective control of insect depredations. This is particularly true in controlling grasshoppers, because these pests seem to prefer to spend the night in weed growths instead of on the ordinary farm crop plants. The grasshoppers are least active early in the morning and vast numbers of them can be killed in their overnight harbors by a burnoff early in the day.

Sterilizing Poultry Runs

The torch is also useful around poultry producing areas for sterilization of runs, controlling of lice and mites in the roosting houses, cleaning and sterilizing of laying cages and brooder houses, and many similar applications.

As an example of the demand that may be developed for hand torches and the gas on which to operate them, one LPG distributor operating five branches in a western state sold more than 150 flame thrower-type, single-head torches in 1954. Only a few of these were sold for forestery service, the big majority going into use on farms in the company's marketing area.

Demonstrate to rent and sell agricultural flaming equipment

Photo: Northwest Fabricators

Demonstrations are an effective means of selling the hand-type torch because it attracts attention by its roar and throws a flame from 5 to 8 ft long.

Trailer-mounted supply tank for a hand weed burner filling at an LPG bulk plant. Torch may be connected to operate from a cylinder of any size or a tank.

NO ONE has yet made a success of selling agricultural flaming installations by conversation. The effect that can be accomplished with these big agricultural torches cannot be described—it can only be demonstrated.

Demonstration with the hand-type torch which roars like an airplane on take off and throws a flame from 5 to 8 ft long is dramatic in the extreme. A few minutes of operation in a bed of weeds along a ditch bank or in bushes or cactus carries more conviction and gets more orders than all the talk or printed matter in the world.

The hand torch may be connected to operate from a cylinder of any size, or from the tank of a pickup truck, tractor, or any other source of fuel supply. Those who have been successful in building volume of burner sales carry their demonstration torches with them and use them on all possible occasions.

A great many sales to large farmers have been made by killing a few weeds in the barnyard or around the house, and by means of the single burner demonstration quite a number of sales of the large burning machines for alfalfa fields and ditch bank clearing have been initiated. No one who is interested in developing this kind of summer load should ever pass up the opportunity to put on a demonstration at gatherings of farmers, such as plowing demonstrations or contests, farm machinery expositions, or any such affair at which large numbers of farmers are gathered.

The larger burning machines such as the alfalfa flaming outfits and ditch burners consume tremendous quantities of fuel, sometimes as high as 500 gal. per day. They have the ability to cover large areas.

How to Sell and Use

A study of the characteristics of the machines and the local farming and climatic conditions will lead the dealer to the solution of the problem of how they should be sold and used.

The alfalfa flaming machines, for example, which employ from 32 to 45 burners, will cover from eight to 10 acres per hour—or, in an eight-hour day, from 60 to 80 acres. The 80-acre farmer would probably not be justified in owning one of these machines just for his own work. The active season for the machine will be confined to approximately 30 days early in the spring, with minor busy periods at later intervals. During this period, if the weather remains good, one machine can cover from 1500 to 2000 acres.

Large alfalfa farmers operating from 250 acres up, should by all means own burning machines so that they may be able to do their own work at the time that is most favorable for control of weeds and insects.

The smaller farmers have proportionately as great a need for the machine as the larger farmers, but a custom or rental deal will be almost as good and will be considerably less costly to these smaller operators.

Lancaster (Calif.) Gas Co., which developed the type of alfalfa flamer most commonly used, owns a number of machines which are rented to farmers on the basis of a small fee per acre, plus, of course, the purchase of the fuel from the company. The operation is simple and any farmer can pick up the knack after a few minutes demonstration. In this case the rental service has proved quite satisfactory to the users and highly profitable to Lancaster Gas.

Several of the more prominent farmers in the area have purchased machines for their own use and a number of these are renting the machines to their neighbors during idle periods. There have been a few reports of farmer-owners who are doing custom burning for other alfalfa growers.

Rental Service

In operating rental service on equipment of this kind it is important to schedule the use of the machine in advance. In alfalfa flaming operations the rate of work can be predicted rather accurately, but it is necessary to allow ample time to transfer the machine from one customer to another. Having the customer

pick up the machine and return it is advisable; otherwise quite a bit of a company employe's time is likely to be lost if he is sent out to pick up the machine.

The ditch bank burning machine, with from 3 to 8 large burners on the end of a boom will operate at a speed of about 1 mph in dense growth the first time over. With less dense growth, this speed may go up to as high as 2½ mph. This will ordinarily kill the growth but not consume it, so it is generally necessary to make a second trip over several days later to burn up the remaining weeds and grasses after they have dried out. This can generally be accomplished at speeds of from three to five miles per hour.

Two Trips for Large Ditches

On major canals and larger ditches it is generally necessary to make separate trips for both banks, but on the smaller lateral ditches, in many cases both banks can be covered with one pass of the machine. This is accomplished by directing the flame at the bottom of the ditch and the trailing flame and rising steam do the job on the weed growth on the banks.

After a little experinece, the rate of operation can be predicted for canals of any size. Since it takes a little time to learn how to control the burner heads it is really better to do the work on a custom basis, unless the machine is owned by a ditch bank company that is able to put the same man on the machine all the time.

The machines have been used on a rental basis in a number of localities and, where ample time has been taken to instruct the renting operators and extra time allowed for transporation between customers, the rental service has worked out on a practical basis. The savings of costs due to the use of these machines in comparison with any other method of ditch bank growth control has been so outstanding that there is really little reason for using the rental basis. The property owners can pay for custom service and still make a very worthwhile saving in clearing their ditches.

These machines are very much in demand once their services are demonstrated in large irrigated areas. A typical experience report on this comes form the Ideal Gas & Appliance Corp., Nyssa, Ore. It placed two of these outfits in service on a rental basis July 1, 1952. During the remainder of that season rental of the machines resulted in the consumption of 13,000 gal. of fuel. At the beginning of the 1953 season this company placed two additional burning machines in service, and during the peak-demand period of the season, all four machines were busy, being reserved as long as 10 days in advance.

Quite a bit of the demand was for very short periods of use in which the rental of the machine for the operating and transporation time did not appear to be the most economical way to get the job done. The company, therefore, built up a number of small trailer outfits with 128-gal. propane tanks equipped with hoses and single-hand burners, instead of the multiple burners used on the big burning machines. These have proved to be quite practical for burning short distances on the larger ditches and particularly for clearing the small laterals and farm ditches. The company found that it could sell these at a profit for about $300 and that there were quite a number of farms on which these could be profitably used. Eventually groups of farmers began to come in to make partnership purchases with three, four or even, in cases, as many as six purchasing the units jointly.

Paid For In One Year

In the course of four months, the company had made and sold more than $15,000 worth of these small portable single burner machines. This worked out very well and the owners generally found that on an 80- to 100-acre basis the machine paid off during the first year.

With the four big burning machines in service, plus the intermittent use of the numerous smaller outfits, Ideal Fuel & Appliance sold nearly 150,000 gal. of fuel for burner use during the 1954 season. It is the opinion of the officials of this company that because of the larger number of burners that can be put in use, the total amount of fuel consumed in the smaller burners will exceed that of the larger tractor- or trailer-mounted machines.

There are many other cases in which the needs of the farmer are adequately met by a single hand burner and hose connected to any fuel supply from a 20-lb trailer cylinder up to any size of portable tank that the farmer may have on hand. These torches can be used in connection with the supply tank on a converted pickup or a tractor and will return their cost in a very short time.

Manchester Welding & Fabricating Co. offers some figures on the fuel needed to maintain medium-sized ditches in weed-free condition. These figures show that six burns per year (three treatments of two burns each) are needed and with a ditch 5 ft, 6 in. wide and 2 ft, 3 in. deep, 500 gal. per mile are consumed during the season.

This sounds as if the operation of the big burner will incur a tremendous fuel bill, but it is only a small fraction of the cost of clearing the ditches by hand labor and the results are infinitely better.

The gallonage figures on this kind of operation are amazing. It has been the general experience of those dealers and distributors who are promoting the sale and use of large weed burning equipment that conversation alone will not sell the machines nor put them in use. The story is just too fantastic to be believed, but demonstrations put the story over quickly and convincingly. The same is true regardless of the size of the burner.

The story is the same wherever we look. If you wish to sell weed burning fuel — demonstrate weed burning. ■

Bay Heat Delivers 82 Gal. of LPG Per Delivery Truck Mile

One of Bay Heat's two 1750-gal. delivery trucks. Each driver is assigned a truck and in the winter months delivers about 90,000 gal. of LPG per month.

Field Editor
By Harold C. Hood

Careful routing and scheduling and a limited field of operation are two reasons why Bay Heat in North Bend, Ore., is currently delivering 82 gal. of L. P. gas for every mile its delivery trucks operate.

BAY HEAT INC. in North Bend, Ore., is currently delivering 82 gal. of LPG for every mile its delivery trucks operate. Two years ago this figure was 65 gal. for every truck mile.

All phases of the company's operation—routing, scheduling, sales, installations, and servicing—are directed toward increasing this volume per mile. The present record appears phenomenal in view of the fact that a great many good operators are delivering less than 18 gal. per delivery truck mile.

Walter Kraus, president of Bay Heat, claims that he's "naturally lazy" and that any success his company has enjoyed is due to the fact that his 10 employes are the best in the business. But when a seven-year-old company has built its gas and appliance business to $300,000 annually and averages 82 gal. per truck mile, the boss must have something "on the ball." The situation might indicate that it pays to be lazy in an intelligent sort of way.

Trade Secrets

Let's look at the company's operating methods and analyze some of Mr. Kraus' trade secrets:

Careful routing and scheduling has been of utmost importance. Bay Heat has two drivers and last year they delivered 1.3 million gal. of propane. Each is assigned one of the company's 1750-gal. tank trucks and during the winter averages as high as 80,000 gal. per month. This average drops to as low as 35,000 gal. in the summer, with a winter-summer ratio of 1.3 to 1. Because of the preponderance of small domestic customers, this ratio will probably never be close to the ideal balanced load. However, recent interest in propane for logging vehicles indicates that the imbalance may be decreased.

Bay Heat's operations are limited to a radius of 15 miles from the bulk storage plant. The adjoining towns of North Bend and Coos Bay provide approximately 8000 families as prospects for gas service, and at the present time one out of four uses gas. There is no piped gas in the area, although there is another bulk dealer in town who, Mr. Kraus states, "is most aggressive and helps to keep me on my toes." There are seven fuel oil dealers in the area and although fuel oil is cheaper than propane, Bay Heat has built its load on the assumption that "what Cadillac is to the auto industry and Tiffany is to diamonds, propane is to better living."

One Page Per Customer

The company's 1500 customers are broken down into routes of 100 each. A book is made up for each route with as many pages as customers. Every 15 or 20 pages is a map describing the location of the next group of gas users with short-cuts and land-

Offices and showroom of Bay Heat, North Bend, Ore. The seven-year-old company has built its gas and appliance business to $300,000 annually.

marks indicated. Every time a new customer is added in his area the driver is given a route sheet, and it's up to him to fill in the necessary data and locate this new stop on his map. He is also to make a complete notation as to the types of appliances the new customer has and any other pertinent data.

Drivers are completely responsible for the routes assigned to them, and during the dry season must clean the debris and weeds from around the tanks, paint each tank and affix the company stencil. They are not allowed to back-track nor may any district be covered more than once a month. Commercial accounts are excepted. Using large quantities of gas, these pull up the gallonage per mile figure appreciably and are serviced as often as necessary. If a domestic account requests a special call for any reason, he is charged $3 just for the call; this practice has discouraged inconsiderate customers from working on the emotions of Mr. Kraus and his employes.

Each driver has an office chart on which he indicates the time of the month when he calls on each residential section. Also shown on this chart is the day of the week on which he delivers to a certain group of commercial accounts. Drivers make out a gas delivery ticket for each stop and note the date and amount of gas sold, how full the tank was before and after fueling, and any other comments relative to the delivery.

At the end of the day these tickets are turned in along with a record of the day's mileage and the meter reading at the beginning and end of the day. This last must balance with the total gallonage delivered as shown on the gas tickets.

Long vs Short Routes

The theory behind Mr. Kraus' policy of short but concentrated routes is very sound. Consider two hypothetical LPG routes. One extends to a point 15 miles distant and returns to the starting point. The other is located in a more rural area and consists of a 100-mile circuit. Assume that two similar trucks are used to service the routes and that the average speed of the one making the shorter trip is 20 miles per hour. The truck servicing the longer route will probably average about 30 miles per hour, and both drivers will require approximately 25 minutes at each delivery stop to park, hook up to the tank, fill with LPG, and make the customer contact.

The round trip for the more concentrated route will require 1½ hours of driving time, while the longer route will take 3⅓ hours. By dividing the time remaining in an eight-hour day by the time required for one stop it is seen that the driver on the 30-mile route can average better than 15 deliveries compared to the other's 11. Gallonage of LPG delivered is proportional to the number of stops, and operating expense on the shorter route is considerably less than on the circuit route. The advantages of the shorter route are easily seen.

Besides their salary, Bay Heat drivers are paid a commission on collections. Two percent of everything they collect, above the first 20%, is their own. These collection bonuses amount to as much at $45 per month, and provide an incentive which has greatly simplified collection problems.

If a customer pays within 15 days of delivery he is given a one cent discount. This plan, instituted over two years ago, has appreciably reduced tardy payments. Accounts receivable today are no higher than they were two years ago when the company had 400 fewer customers. Statements are sent out on the first of the month, and again on the twentieth if payment has not been received. Sluggish payers are put on a COD basis after 60 days

Effectiveness of Bay Heat's collection system is attested to by the fact that last year only $460 out of $300,000 was lost, or a write-off of only 1/10 of 1%.

To develop the concentration necessary to make a limited-area business profitable, aggressive sales methods are essential. By his own admission, Mr. Kraus' sales methods are "garish and flamboyant"—and have proven effective. Last fall he went to San Francisco and bought a full carload of Emerson 17-in. TV consoles and table models—230 sets in all—to be used as give-aways in a promotion pushing the sale of Roper ranges. With each new $289 range sold, a TV set was given away.

Bring In the Old Range

During another campaign he offered to pay $250 for the old range of any customer buying a water heater, space heater, and a new range. Forty second-hand ranges were taken in during this promotion.

When Bay Heat advertises in the newspaper a full page is generally devoted to the message. Not long ago a full page ad contained nothing but nine words in small type in the middle of the page, "Inquisitive, aren't

you? Why don't you investigate propane gas?"—and they were printed upside down.

During a typical promotion Mr. Kraus will spend as much as $500 per week for advertising. This will pay for many spot commercials on the two local radio stations and for a lot of newspaper space.

On most of these promotions the company just breaks even. Advertising, give-aways, and installation costs eat away profits from appliance sales, but the gas load has been increased and the all-important volume-per-mile figure has risen. The company's gross profit is derived from gas sales, and the sale of appliances is considered primarily a supporting function.

Approximately 30% of Bay Heat's customers are commercial—motels, clubs, and restaurants. The same policy of sacrificing appliance profits to increase the gallonage per truck mile is observed here. Restaurant equipment is often sold at cost and the expense of installation borne by the gas company in the anticipation of a worthwhile gas load in the future. Such accounts frequently net the company $100 per month on a steady, year-round basis.

Push Top Quality

Another company policy, designed to increase the concentration of gas users in an area and consequently the gallonage sold per delivery truck mile travelled, is apparent in the selection of appliances sold and the installation practices followed. Only top quality equipment is pushed in Bay Heat's sales efforts. The theory back of this is that while some "economy class" sales will be passed up, the customers who are added to the LPG routes will be satisfied users and will spread the word to their neighbors. Mr. Kraus feels that the long-run result of this policy will be a far greater sales volume.

To illustrate, Bay Heat has sold practically no circulating heaters or floor furnaces in the last few months; almost all of the space heating units have been costly perimeter heating systems. These installations are expensive—between $700 and $1100—but the people buying them are almost without exception staunch supporters of LPG.

The same policy holds true in range sales. At the present time there are no ranges in the company showroom priced under $250. People who buy these ranges are getting gas service at its best.

All appliances sold are installed by Bay Heat's service men. Years of experience enable these men to get every possible Btu out of the equipment. Return visits are made approximately a week after installation and attempts are made to balance out the unit and increase its efficiency.

Large Tank, Lower Price

Bay Heat has established a rule that all heating customers shall have storage facilities of 250 gal. or more. To encourage replacement of 100-gal. tanks already in use, the company allows the full original value on purchases of larger tanks. A drop in price of four cents per gallon for customers with the larger tanks furnishes an additional incentive for the change-over. The difference in cost of a 100-gal. tank and one of 250-gal. capacity is $55. By installing a larger tank, the average consumer of 1000 gal. per year saves $40 annually, and reduces the number of trips Bay Heat must make to his home.

Mr. Kraus' present plan is to maintain the 15-mile limit now in force and increase the concentration of customers within this area. New customers will be solicited and those currently using LPG for cooking and water heating only will be approached with space heating suggestions. With continued effective sales promotions and carefully scheduled routing, the present 82 gal. per mile averaged by Bay Heat is bound to rise even higher. ■

Bay Heat Salesman Joseph Warr demonstrates a range. In a recent promotion a TV set like the one shown was given away with each range purchased.

Walter Kraus checks over a route book. Pages are arranged in groups of 15 to 20, each group constituting a route, with map at the start of each section.

Portable L.P. gas Beats Electricity For Sprinkler Irrigation Systems

An understanding of irrigation principles and practices is a great advantage in developing the irrigation market. Amount of water required, nature and contour of the soil, rate of application, and climatic history of the region all determine the type and capacity of the pump and whether surface or overhead irrigation is best. Part 2 in a series.

By Carl Abell • Editor

THE most widespread deficiency affecting farm crops is the lack of water during the growing season. The regions of the United States in which temporary shortages of rainfall cause the most serious crop losses are those which have high annual rainfall, but suffer from periodic drouths during the growing season.

Most of these areas have ample water available in streams, lakes or underground reservoirs, or the water can be made available by the construction of ponds in which seasonal surpluses may be stored. Direct federal loans and government-guaranteed loans are available to finance the development of water supplies and irrigation systems.

Many forms of help in planning irrigation systems are available through the soil conservation service, the state agricultural experiment stations, and the county agricultural agents. The farm publications are encouraging the development of private irrigation systems, and the electric power companies are doing their utmost to put the irrigation pumping load on the power lines.

In spite of certain serious disadvantages, generally including high cost, our electrical competitors have made notable strides in taking over this rapidly developing irrigation load. They entered the field early, and they have worked hard at the selling job. Hundreds of farmers are now paying monthly stand-by charges, or "connected-load charges," throughout the year to have pumping power available for intermittent use during only a few months of the growing season.

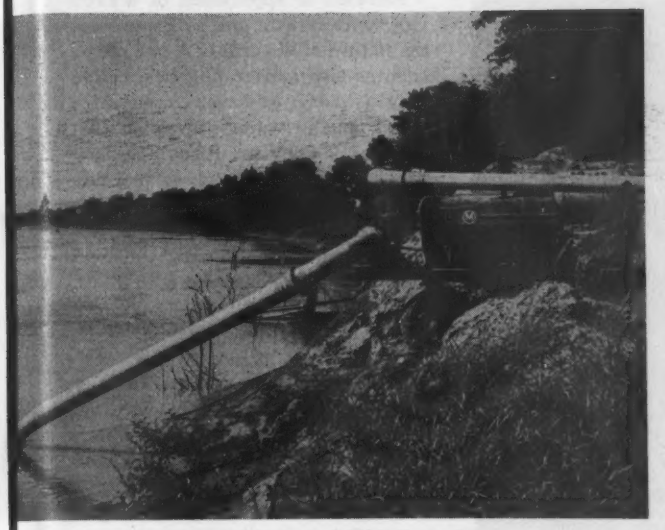
Most single-farm irrigation systems require power to pump water, because their water supply is at a lower level than the fields. If the water must be raised out of deep wells, the power requirement is correspondingly increased, and some methods of irrigation require more power than others.

Second Portable Power Plant

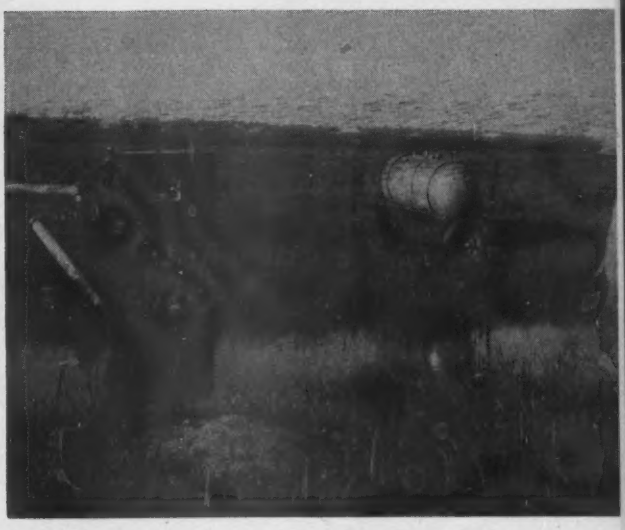
Sprinkler irrigation, which is developing faster than any other type, generally requires a second source of power to provide the pressure necessary to operate the sprinklers, and, in most cases, this second power plant must be portable. Where bulk gas service is available, propane power plants will generally be preferable for the stationary pump that lifts the power from its source. It has even more advantages for the portable pump in the sprinkler system.

These latter pumps are generally mounted on wheels, and are moved from place to place on the farm with the sprinkler lines. Such mobility is not practical with electric motors. The propane-fueled engine can also be throttled to provide the exact amount of power required to operate sprinkler lines of any given length within its operating limit, maintaining the correct pressure to operate the sprinkler heads. This is an important factor in securing proper coverage and correct rate of application. The electric motor does not have this flexibility; it operates at one speed only, and at that speed the pump delivers a constant amount of water, and will operate only a fixed number of sprinkler heads to best advantage. For odd-shaped fields requiring variations in the number of sprinklers on lines of different lengths, electricity is simply not the practical source of power.

This is only one of the engineering problems involved in the design of an irrigation system. Irrigation engineering is a specialized profession, which not too many farmers and very few L. P. gas distributors are qualified to undertake until after they have had the opportunity for considerable study and observation. There are so many variable factors involved in the selection of irrigation methods,



On the Egypt plantation in Kruger, Miss., water is pumped from the Yazoo river into a ditch and then used for irrigation.



A sprinkler system with a portable pumping engine that moves with the pipe line takes the water from the ditch.

location and construction of water-carrying facilities, and preparation of the land, that it will generally be advisable to secure the aid of trained men to plan the customer's entire irrigation system, at least until the distributor has the necessary experience within his organization to be sure of doing the job right.

Customer Assistance

Fortunately, there are a number of irrigation equipment distributors throughout the country who are able to supply properly qualified engineering assistance to their customers. This is a part of the service that they expect to render to their customers along with the sale of the equipment. These distributors are able to supply all equipment needed in the irrigation system, including pumps and the means of driving them. Most of them would just as soon sell an internal combustion engine as an electric motor to drive the pump, and those with wide experience prefer to sell propane fueled engines instead of gasoline jobs, because they know that they will have fewer service calls and better-satisfied customers.

The L. P. gas distributor who wishes to develop the irrigation pumping load in his territory should make the acquaintance of the irrigation equipment people serving the locality, and should set up close working arrangements with these firms wherever possible. The equipment distributor may have, or may need, a local dealer. There are a number of cases on record in which L. P. gas distributors have secured these dealerships.

More frequently one of the local farm implement equipment dealers handles the irrigation supplies. It is a desirable line for the tractor dealers, as it provides another market for the industrial engines which they have available as part of their tractor franchises. The engineering services of the irrigation equipment distributor are available through the dealer.

A broad understanding of irrigation principles and practices will be of great advantage in developing the irrigation market in the eastern states. A great many farmers must still be sold on irrigation before they can be sold on the use of propane as a fuel for their pumps. They want to know what irrigation will do for them, and how to go about it. They also want to know what it will cost, and it is not possible even to guess on this until the system is planned.

The first thing the farmer will need to find out is how much water will be required, and where it can be had. The requirement depends on the area to be irrigated, the nature and contour of the soil, method of irrigation to be followed, rate of application, and the climatic history of the region. On these points, the soil conservation service and the county agent can be of help.

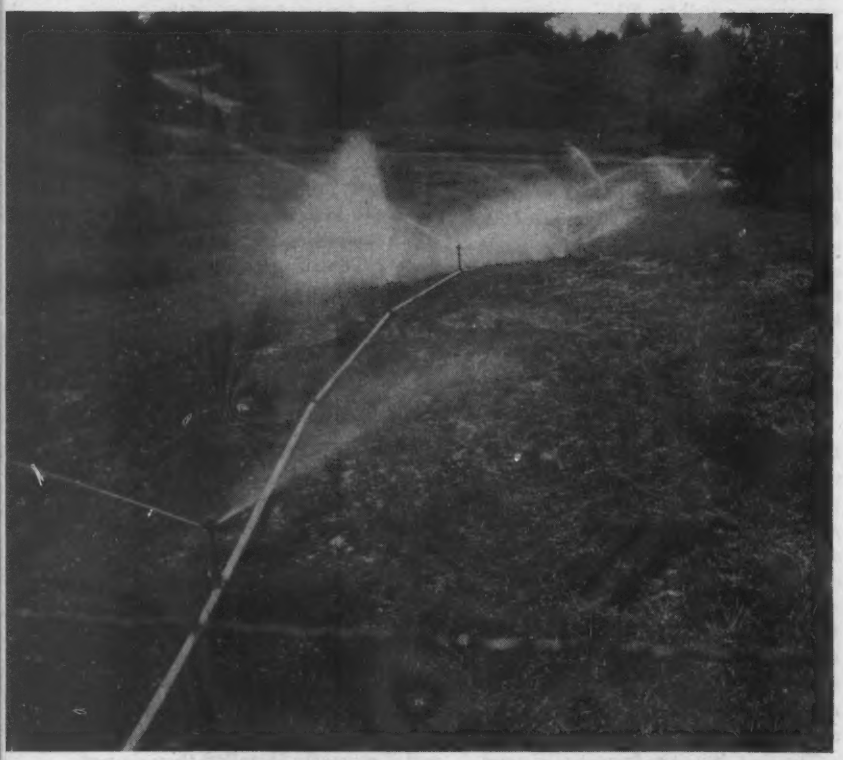
Centrifugal-Type Pumps

These factors in turn determine the type and capacity of the pump and the horsepower required to lift the water. Centrifugal-type pumps are generally used where they can be mounted on the surface and the suction will be less than 25 ft, and where only a moderate rise is to occur above the pump level. For deep wells, or for extreme lifts above the pump level, it is necessary to provide a more positive water drive. In pumping from deep wells, the pump is placed near the bottom of the well and driven by a shaft from the top.

The water must be raised to the level at which it will be applied on the field, and distributed to the points of application either by means of a pipeline or in open ditches. Pipelines require higher investment, but their maintenance is practically nothing, and if properly installed they do not render an appreciable amount of land unuseable. Ditches cost less to install, but require maintenance and clean-

Siphon tubes are used to control the amount of water supplied to each furrow on this irrigated farm in the Fairview soil conservation district near Hollister, Calif.

—Photo: USDA



Overhead sprinkling is the method of irrigation that has most recently come into use. Flexible joints in aluminum irrigation pipe permit laying on uneven contour to cover irregularly shaped fields.

ing, use up space that might otherwise be in production, and interfere with the passage of cultivation and harvesting equipment.

Methods of application of water vary with terrain and soil, and with the nature of the crops. A few crops, such as rice and cranberries, thrive only under very wet conditions—they stand in water during at least portions of the year. Rice must have its roots in the water from planting to maturity. Land for these crops must be absolutely level, and the water is applied by flooding the field areas, which are enclosed with dikes.

The Perfect Slope

Field crops such as alfalfa may also be irrigated by flooding, but they must not stand in water. Land for these crops which are to be flood-irrigated is prepared by careful grading to secure a slope of only a few inches per mile, and long, narrow vats or "checks" are formed by throwing up low dikes, which confine and direct the water but do not interfere with the passage of harvesting machinery. The water is supplied at the high end of the vat, and allowed to flow by gravity down to the low end. The length of the vat and the slope are regulated according to the nature of the soil. Fine silt or clay soils permit the use of longer vats and less slope, as the water has more tendency to flow and less to penetrate. Soils of coarser texture require more slope and shorter vats. Some soils are so sandy and open that they cannot be irrigated satisfactorily by the flooding method, even though they are almost as flat as a floor.

The mechanical preparation of the land is a major cost in practicing this form of irrigation, but after the grading and diking are completed there is little additional preparation expense except for changes in means of water control necessitated by rotation of crops.

Land that is not quite level or regular in contour is sometimes flood-irrigated by the construction of terraces that slope from end to end. This method is used to a considerable extent in growing alfalfa and some other field crops and orchards, but it is not very satisfactory with row crops because of varying width of the terraces, which results in extra tillage expense and waste of crop space.

A variation of the flooding practice

is sub-irrigation, in which the water is caused to seep horizontally into the soil beneath the surface. This is possible only on land that is practically level and is underlaid by a dense subsoil, and on low-lying land where the natural water table is only a matter of inches below the root zone. In the latter case, the purpose of irrigation is to raise the level of the soil water enough to make it available to the plants. In case of flood or too heavy rainfall, the same ditches that supply the irrigation water are useful in providing drainage during periods of excessive wetness.

Uses More Water

The greatest disadvantages of this type of irrigation are that it requires more water than other methods; the numerous ditches waste crop space and interfere with efficient cultivation and harvesting; soil salts detrimental to plant growth may be brought up and deposited in the root zone. Most land that has been irrigated in this manner over a long period has eventually become seriously damaged, particularly in the dry irrigated areas of the West where there is a high content of alkali in the soil. Such land can only be reclaimed by washing the alkali down below the root zone and then using some other method or irrigation. Sprinkler irrigation has been the means of much of this reclamation.

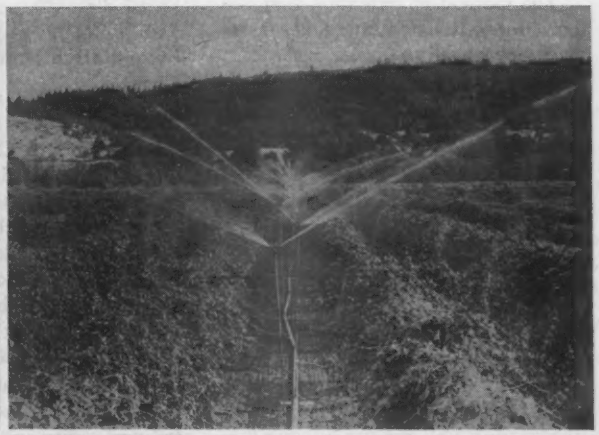
The most widely used method of irrigation is by means of furrows between the crop rows. To get uniform penetration of water the land must be carefully graded to secure a uniform slope, the gradient of which must be correct for the fineness or porosity of the soil. The water is either ditched across the head of the field and brought over the bank into the furrows with aluminum or plastic siphon tubes, or is carried across in large pipes in which an adjustable outlet is provided for each crop row. This is called "gated pipe."

Disadvantages of Surface Flow

Irrigation by means of surface flow, either by flooding or furrows, has several disadvantages. The labor cost is high, as it is necessary to keep an attendant in the field to regulate the flow, see that the right amount of

Sprinkler systems provide a versatile method of irrigation. Here they apply artificial rain to a nut orchard.

System may be used for alfalfa. Advantages of sprinkler irrigation include elimination of leveling.



Many farmers installing sprinkler systems have paid for them from extra profits in one dry year. Here system irrigates onions.

Hop vines on trellises benefit from sprinkler system. Portable aluminum pipe has done much to make sprinkler irrigation practical.

water gets through to the lower end of the field, and open and close the valves or gates at the right time. Some types of soil are inclined to puddle, which requires extra tillage to promote maximum plant growth. This method is also wasteful of water, as it is never possible to secure uniform depth of penetration, and portions of the field are soaked deeper than is necessary in order to get sufficient water in the shallower places.

Water is also wasted at the low end of the field before adequate penetration is obtained in the lower portion. In the arid West, where water is scarce, these "tailwater" accumulations are commonly picked up with a portable pump and returned to the distribution ditch. This is costly, but so is water, and the farmers cannot afford to waste it. And finally, carelessness in allowing too great a flow of water in the furrows can cause erosion, which eventually requires re-grading to move the accumulated silt at the lower end of the field back to its source.

The method of irrigation that has most recently come into general use is the overhead sprinkler system. It is better adapted to the irrigation problems of most of the humid East than the surface methods. During the past few years sprinkler irrigation has become practical for widespread use because of the development of portable aluminum field pipe which slips together at the joints by means of quick couplings. These joints are fitted with rubber or neoprene seals which close when the pressure is applied inside the pipe, and are designed to tolerate misalignment of several degrees in any direction.

Quick Change

Sprinkler heads are mounted in the couplings at appropriate intervals to secure complete coverage of the area along which the pipe is laid. When sufficient water has been applied at the first setting, the pipes are simply disjointed and carried to the next location. The aluminum tubing is very light in weight, and one man can carry several sections. The change to the next location is quickly accomplished, and after the line is laid and the pump restarted, no attention is required for several hours, until it is time to change the location of the pipe.

The use of the sprinkler system eliminates the necessity of grading or leveling the land. The pipe may be laid over land of irregular contour, and on any slope that it is practical to cultivate. Adjustments in length of pipe may be made to fit fields of irregular shape, and if the pressure is supplied by an engine which can be throttled to maintain the correct pressure in the pipe, application at the correct rate may be made regardless of the number of sprinklers on the line as it is moved across an irregular shaped field. (This adjustment cannot be made if electric motors supply the pumping power.)

There are several responsible manufacturers of sprinkler heads who supply a wide variety of sprinklers calibrated for a range of pressures and application rates that will answer the needs of any specific irrigation problem. The flow rates of these heads are listed in their literature, along with the recommended pressure, the area each will cover, the recommended spacing on the pipeline, and the distance between moves of the pipeline.

Informative Handbook

One sprinkler manufacturer, the Rain Bird Sprinkler Manufacturing Corp., Glendora, Calif., issues a comprehensive sprinkler irrigation handbook which gives the engineering details needed for the design and use of portable sprinkler irrigation systems, and a great deal of supplemental information which will be useful to anyone wishing to sell or promote the sale of irrigation.

One of the greatest advantages of the sprinkler system is that it can be tailored to fit any job, and the investment is low in comparison with the benefits. Many farmers who have installed systems have paid for them in the extra profits obtained in one dry year. Even in normal crop years, with adequate rainfall through most of the growing season, the cost of the system will generally be returned in from three to four years, even though it may be in use only once or twice during the season.

The advantages of the portable sprinkler system over other methods of irrigation for use in most of the territory under discussion are so great that there should be few cases in which any other method would be selected. These advantages include the elimination of leveling or grading; uniform application of water at the correct rate for complete absorption; no erosion; no waste of water (and the power required to deliver the water); less tendency to puddle or pack the soil; generally operation with lower labor cost or less working time for farmer tending his own system. Fertilizer may be applied with the water, thus saving application costs; washing effect of water applied from overhead helps to control insects such as aphis and thrips, and plant mildew. Many reports show higher quality crops and increased yield compared with surface irrigation.

Boosts Gas Load

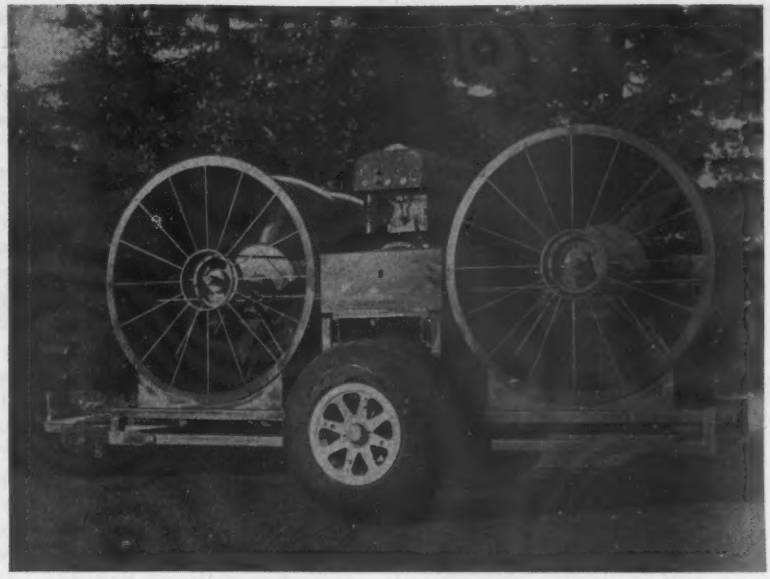
From the standpoint of the L. P. gas dealer, the sprinkler irrigation offers another most important advantage—it generally requires more power to operate than the surface irrigation methods. This results in a higher gas load during the warm months, if the power plants operate on propane. This extra investment in power plants and in fuel expense is no disadvantage to the farmer. He saves in many ways through the use of the overhead system, and increases his income because of the increased production of better quality crops.

It should be emphasized in all cases that the system should be designed to fit the farm. The LPG dealer working on irrigation power sales should take advantage of the best professional help available from the irrigation equipment distributors in providing the precise system that will do the best and most economical job for each customer, and they will all be different in some respects.

Financing the installations and the water supples is no longer a problem. The best help in the world is available to take care of that part of the problem. And the installation of a good irrigation system is a true investment instead of an expense. It adds more to the value of the farm than it costs to install, and the investment is paid back in a few short seasons, possibly the first year if it happens to be particularly dry. ■

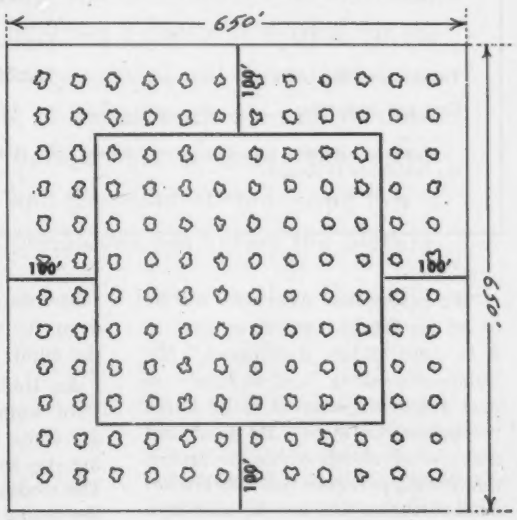
The next article of this series will review the several methods of financing the installation of irrigation systems.

BPN staff report



Left: Heatmobile, a giant fan machine, blows LPG-heated air in two directions through orchards, groves and vegetable fields. When fans are not needed, engine can be used as a mobile power supply for such things as pumping.

Below: Diagram shows towing pattern recommended by manufacturer of heatmobile for covering a square orchard of approximately 10 acres. Pattern varies with location, shape of orchard and direction of prevailing winds.



HEATMOBILE

Replaces Smudge Pots in Orchardists' Fight Against Frost

By Harold C. Hood
Field Editor

CALIFORNIA orchardists and truck growers now have the means of eliminating their contribution of soot and smoke to the atmospheric pollution that bears the unpleasant name of "smog." A giant fan machine which blows LPG-heated air at the rate of 160,000 cu ft per minute two directions through groves and vegetable fields is replacing messy smudge pots in the fight against frost.

Manufactured by Robinson Blower & Engineering Corp. of San Martin, "heatmobiles" come in two sizes. The model 10 has an hourly output of 2 million Btu, moves 100,000 cu ft of heated air per minute, and has an effective protective range of 300 ft on each side of the machine. The manufacturer claims that it can blow sufficient warm air to enable one man, towing the machine through the orchard or grove at approximately 4 miles per hour, to maintain safe temperatures over a 10- to 15-acre plot.

Can Safeguard 25 Acres

The larger model 20 is designed to safeguard an area from 20 to 25 acres during average cold snaps. It has a 4 million-Btu-per-hour capacity and its two blowers can handle 160,000 cu ft per minute. Both machines are built to maintain an average 6° rise in temperature in the areas for which they are designed.

M. R. Robinson, president of Robinson Blower & Engineering Corp., reports that to date most of the machines have been bought by owners of almond groves. Two were recently delivered to Reedley, Calif., for use in a large citrus orchard. Truck farmers throughout the central part of the state are showing increased interest in the trailer-mounted heater as a means of protecting their vegetable fields. The fans have also been used in stationary positions for drying various kinds of nuts, and the manufacturers report that orange packers near Reedley have found that the machine can be used to dry orange trees so that the fruit may be picked after a rain or continued overcast. They discovered by tests that four rows of trees could be dried by the machine in about an hour. Heatmobiles may also be used to dry Emperor grape vines prior to picking.

TABLE 1

Item	Heatmobile	Return Stack Heater
Initial equipment	$4250.00	$2412.00
Storage tank		850.00
Hauling tank		150.00
Lighting torches		10.00
		3422.00
Fuel	270.00	1890.00
Place and return pots		72.00
Lighting and filling	75.00	300.00
Cleaning		20.00
	345.00	**2282.00**
Depreciation	1185.00	1023.60
Interest	296.25	255.90
	1481.25	**1279.50**
Total operating cost	**1826.25**	**3561.50**
Cost per acre-hour	4.00	7.12

(Based on a 10-cent butane cost, the Robinson Corp. estimates fuel cost per hour for the heatmobile at 20 cents.)

"We expect that other uses will be found for the heatmobile as soon as it is more widely distributed," Mr. Robinson predicts, "and we firmly expect a growing market to be found throughout the state." He points out that one advantage of the machine is that during periods when fans are not needed, the engine can be used as a mobile power supply for such things as pumping. It is easily moved and can be placed in a stationary position.

100° to 150° Temperatures

Ransome liquid-type burners are used on both models, and are mounted at the upstream end of the air tunnels in which the large six-bladed fans rotate. Temperature at the outlet of the tunnels ranges from 100° to 150° F. Tanks for LPG are mounted in the center of the two-wheeled trailer, between the tunnels and below the engine. A 150-gal. tank is used on the model 10, and the larger model 20 machine has a 200-gal. tank. Tank capacities are sufficient to supply burners and engines with fuel for approximately seven hours, doing away with the need to refuel during a critical temperature drop, for example, in the middle of the night.

An International Harvester or Ford industrial engine is used to drive the heatmobile's fans, according to the customer's preference. The model 10 uses a 45-hp engine and the model 20 is powered by a 65-hp unit. All engines are equipped to operate on LPG unless it is definitely specified by the purchaser that he wants to use gasoline.

A multiple V-belt drive connects the engine with the fans. The No. 18 fans operate at 1150 rpm and the No. 20 at 960 rpm. The effective velocity is approximately 400 ft on each side.

Move With Ease

Recommended prime-mover for the heatmobile is a pickup truck, jeep, or farm tractor. Weight of the model 10 is 3650 lb and that of the model 20 is 4400 lb. Both models are equipped with bomber-type aircraft wheels and tires, and are easily towed through fields and groves. The all-welded square tubular trailer comprising the bed of the heatmobile is equipped with a standard ball-and-socket trailer hitch and may be towed from place to place by automobile. Wheels are adjustable for high or low undercarriage clearance.

Advantages of the heatmobile over the conventional return stack heater are many. The savings in cost to the user are shown in a comparative cost study set up by the manufacturer over a three-year period. Figures are based upon use of a No. 20 model on 18 acres of land, and a frost period requiring a total of 50 hours of heating over a three-year period is assumed. Mr. Robinson sums up the findings of the study, stating: "We find that with the heatmobile the total operating cost, including depreciation and interest, is approximately $4 per acre hour, as contrasted with $8 per acre for return-stack oil heaters, or $10 per acre-hour for the combination of overhead fans and return-stack heaters, to give the same protection." A break-down of cost items is shown in Table 1.

Other advantages pointed out by Mr. Robinson for the vehicle are its extreme mobility, the greatly decreased amount of manual labor required, and the elimination of the dense, black smoke that pours from the conventional heater.

Deliveries of gas to heatmobile accounts in the San Martin and Gilroy area are made by Home Gas & Appliance Inc. of Gilroy. Louis Belli, manager of the gas company, reports that his company has handled all LPG conversions of heatmobile engines to date.

No Refueling Problem

Storage tanks furnished by Home Gas for heatmobile use range from 250-gal. capacity to 1000-gal. The smaller tanks are generally mounted on trap wagons, and are used to refuel heatmobiles in the field. The larger tanks are permanently located and the heating machines are towed to them for refueling.

Mr. Belli reports that Home Gas, a subsidiary of Van Horn Butane Service, is counting on additional sales of heatmobiles to increase its gas load. It is cooperating in every way possible with the Robinson Corp. in anticipation of this increased business, and suggests that other LPG dealers in similar agricultural areas do the same. ■

Metal Melting Operations Offer The LPG Dealer Large Sales Potential

Metal melting, like solution tanks (see February BPN, page 32), provides a constant market for the LPG dealer. A glance around will show that many objects are made of metal, each die cast in some type of mold. Before this is done, the metal must be melted and the mold heated—and this is where liquefied petroleum gas enters the picture.

By John C. Abram
Divisional Sales Supervisor*
Southern California Gas Co.
Van Nuys, Calif.

GAS men everywhere have first-hand knowledge of the fact that metal melting offers one of the best possibilities for the sale of industrial fuel. Just a glance around us will serve to show how many objects close at hand are made of metal.

The body of that appliance regulator was die cast from aluminum. This brass plug value was cast in a sand mold. The emblem on that car stand-out in front was die cast using a zinc alloy. Yes, the aluminum wheels on that push cart over there were formed by permanent mold casting. With all the thousands of metal products that are formed from the molten state, its easy to see why metal melting offers such tremendous sales possibilities for the gas fuel salesman.

The method by which the metal is molded somewhat determines the uses for which fuel will be required. In order to be better equipped to talk to the user, let's review metal melting and molding.

BPN field report

THE simplest molding methods of today employ sand molds, plaster molds, and permanent molds; in each case, the metal is distributed by gravity. Die casting uses a variation of the permanent metal mold, while centrifugal investment casting uses a variation of the plaster mold.

It's probable that more metal parts are formed by die casting than by any other method. Die casting is the forming process where molten metal is forced under pressure into a mold or die with pressure maintained until the metal is solid.

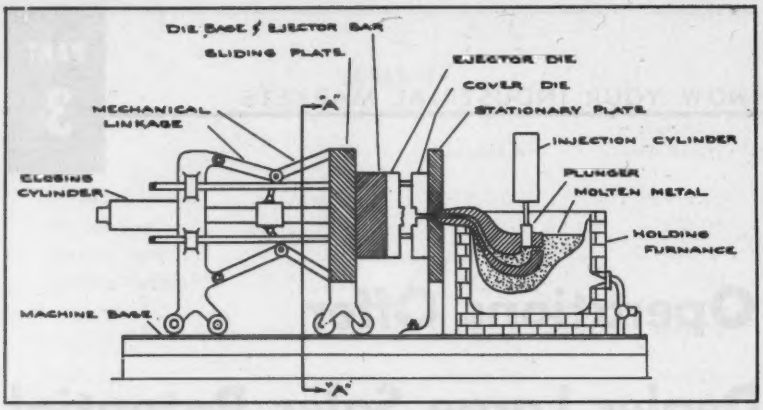
This method of manufacture is in such wide use that it is difficult to imagine how some of the parts produced by die casting could be made economically otherwise. In the automotive field it is used to produce carburetors, fuel pumps, grilles, door handles, insignia, and dozens of other parts. In the commercial field there are thousands of products made this way, a few of which are typewriter components, cameras, business machines, gears, clocks, motors, and gas meters.

Growing Opportunities

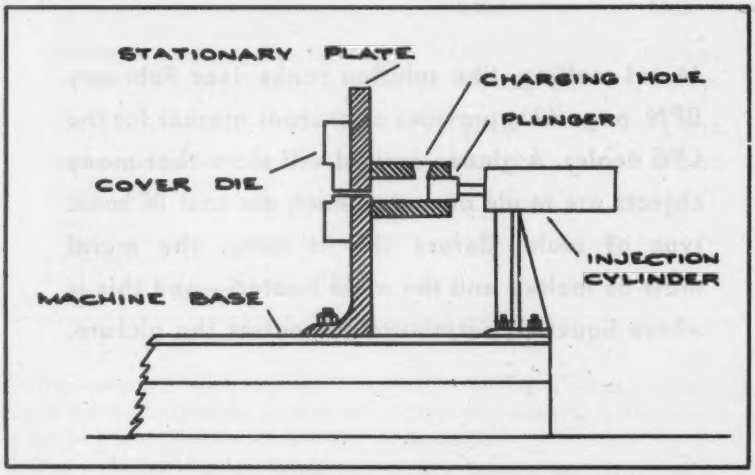
Die casting has come into prominence in the past 50 years and continues to expand each year. The opportunity to sell gas for metal melting and mold heating also grows steadily.

The primary group of metals used in die casting includes aluminum, copper, lead, magnesium, tin and zinc. Zinc alloys are used for approximately half of all parts made by die casting because of the ease and rapidity with which they can be cast. Zinc alloys can be machined easily and

*Since beginning this series, Mr. Abram has been promoted from business sales staff administrative aide in Los Angeles to divisional sales supervisor in Van Nuys.



Hot-shot plunger-type die casting machine.



Casting parts of a cold-shot machine.

have good mechanical characteristics for the type of products. Casting temperature keeps die maintenance tively low—around 775° F. This low temperatures keeps die maintenance cost low and provides fuel economy because of low heat input needs.

Aluminum Widely Used

In the United States about one-third of all parts that are die cast are made from aluminum. Light weight and high strength are two of the reasons why aluminum alloys are widely used. Also, aluminum die castings compete with cast iron and cast steel on a cost basis and have the further advantage of being economical to finish. Aluminum alloy casting temperatures of approximately 1200 to 1250° F are generally used.

Where high strength, toughness, and resistance to corrosion and wear are needed in accurate and intricate parts, copper alloys are used for die casting. The copper-base alloys used are generally of the brass variety with melting points below 1650° F. Bronze, also, can be cast with ease but because of higher melting and casting temperatures, die life is decreased so much that it is uneconomical to use.

When extremely light-weight die cast parts are required, magesium is used. This metal has a very high strength in relation to its weight and is easily machined. Magnesium is considerably more hazardous to handle than the others considered. A temperature range of 1175° to 1250° F is usually maintained for die casting with this metal.

In cases where corrosion resistance is a problem, tin die castings are used. Some tin products are medical equipment, special process pumps, confectioners' equipment, and parts of milling machines. Lead alloys are used to make low-cost non-corrosive products.

Plunger Type

The die casting machines most commonly used are two varieties of the plunger type. They are the submerged plunger (hot-shot) and the cold-chamber (cold-shot) machines. On the hot-shot machine the injection chamber and the plunger which forces the metal into the die are submerged in molten metal. The metal flows into the chamber before each injection, and the plunger forces the metal into the die.

This type of machine is used for the production of the lower temperature alloys of lead, tin, and zinc, which do not greatly reduce the life of the iron and steel parts of the machine and dies.

The cold-shot machine involves the same general mechanism as the hot-shot type, but the injection chamber and plunger are not submerged in molten metal. Each time a part is to be made, the machine operator fills the injection chamber by pouring into it a ladle of molten metal from the melting or holding furnace. Cold-shot machines are used for alloys of aluminum, copper and magnesium because of the effect of their higher molten temperatures on the machine and die parts. The average injection pressure of the metal into the mold is about 1000 to 2000 psi. Pressures as high as 30,000 psi are produced in some cold-shot machines.

Machine Composition

The injection mechanisms with the other necessary mechanical linkage are mounted on a machine base. The front plate is mounted adjacent to the injection section. The stationary part of the die is mounted on the front plate. The other parts of the die are mounted on the sliding plate which opens and closes the die. The ejector mechanism is contained in this section. The sliding plate is connected to the closing cylinder either directly or through mechanical linkage.

Hydraulic pressure, transmitted by water or oil, is used to actuate both

the injection plunger and the closing cylinder. Because of the fire hazard with oil, water is used to a greater extent as the hydraulic fluid. Water under high pressure, however, requires closer tolerances in the machine.

Small Machines Used

Some small hand-operated machines which are adaptable to small production shops are also in use. The fully mechanical machines operate with casting production ranging from 50 to 500 cycles per hour.

Even the simplest of the dies used for this type of production are fairly complex. One of the simpler types consists of the cover die, which is mounted on the stationary plate, and an ejector die and base mounted on the sliding plate. The cover die is made up of a holding block, an impression block and the guide pins for mating with the ejector die. The ejector die consists of a holding block and an impression block through which the ejector pins operate. The ejector plate is behind the die and moves the pins through the die when a part is to be ejected. The die base is mounted on the sliding plate. In many cases a water cooling system is built into the dies to keep them cool enough for continuous operation without damage.

In small-and medium-size die casting plants, or where many different alloys are being run, individual melting furnaces are located at each machine with the metal being transferred by ladle directly to the cold-shot machine or placed in the holding bath which surrounds the injection mechanism of the hot-shot machine. In large operations with many machines using the same alloy, the metal is usually melted in one large central melting furnace and then distributed to holding furnaces at the individual machines.

The types of furnaces used to the greatest extent in die casting operations are the pot type and crucible type. Both have circular steel casings with refractory linings. Burners are so located that heat is applied inside the refractory and transferred to the pot or crucible and then into the metal. The use of metal pots is restricted to temperatures of approximately 1400° F, because the metal in the pot burns out at temperatures higher than this. Above this range a refractory crucible must be used to assure reasonable life.

A Pot or Crucible

For the soft metals, including Babbitt, tin alloys, zinc alloys and lead, pressed steel or cast iron pots can be used. Aluminum should be melted in a heavy cast iron pot or in a sealed crucible. The brass and other copper melting operations must be done in a crucible.

Atmospheric inspirator burners of the upshot ring type are used on some of the soft-metal furnaces. For efficient operation LPG at 9-to 12-in. wc pressure is a normal requirement. A pot which will hold 100 lb of lead requires about 25,000 Btu heat input to melt 50 lb of lead in one hour, while a 5000-lb pot will melt 1600 lb of lead in two hours with an hourly input of 280,000 Btu. For crucible furnaces and pot-type furnaces where tangential firing is used, burners must be arranged so that the flame does not impinge on the pot or crucible.

It is also important that the flame adjustment produce an atmosphere on the reducing side where a metal pot is used. An oxidizing atmosphere, one rich in oxygen, would cause flaking of the iron pot and consequent shortening of its life.

Soft-metal furnace requires LPG at 9- to 12-in. wc pressure for efficient operation. Atmospheric inspirator burners of the upshot ring type are used on some soft-metal furnaces.

If a low-pressure gas-air system is used, LPG at 2- or 3-in. wc and air at 1 psi are required for proper operation of the proportional mix burner system normally used. High-pressure LPG systems require pressures as high as 40 psi. Adequate safety controls are included in the burner systems supplied by such manufacturers as Surface Combustion Corp., Eclipse Fuel, North American, Fisher, Bryant, and many others.

Gas is not only needed to melt the metal, but also to keep it hot once the melting has been accomplished. Holding inputs are considerably below the melting rate, but steady, sizeable inputs are still required. Table 1 gives a general indication of the fuel requirements for both melting and holding at temperature for the family of die casting metals.

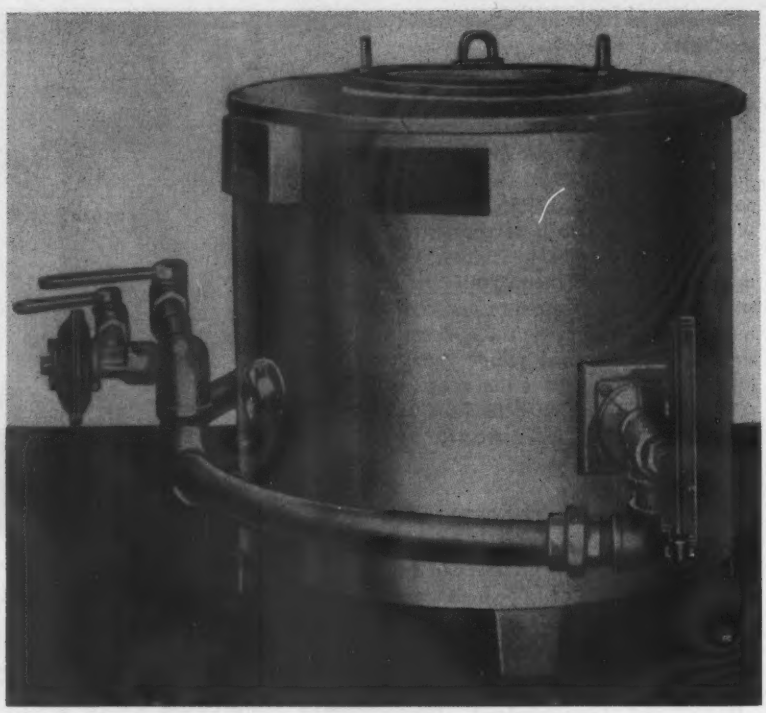
Most manufacturers of the top equipment in this field have good catalog information which can serve as a guide for any given job and is a worthwhile addition to a salesman's working library.

One other important process use of gas in a die casting operation is the preheating of dies. If molten metal were injected into cold dies, serious damage could result to the die from thermal shock. In addition, a high percentage of the parts cast would be unsatisfactory until the die came up to temperature.

For satisfactory casting, zinc alloys

TABLE 1

Alloys	Melting Range °F	Btu Per Pound of Molten Metal: Content in Metal	Input for Melting	Input or Holding
Aluminum	1080-1220	400-480	1600-3300	250-800
Copper	1600-1980	230-370	1000-2200	150-550
Lead	459-620	25-45	100-280	20-70
Magnesium	1100-1250	420-550	1700-3600	260-900
Tin	400-470	47-56	170-350	25-90
Zinc	717-790	105-140	400-800	60-200



If a low-pressure gas-air system is used in a pot-type furnace, LPG at 2- to 3-in. wc and air at 1 psi are required for proper operation of the proportional mix burner system, which is normally used.

require die temperatures of 350° to 475° F. Aluminum and copper alloys require die temperatures of 500° to 600° F for quality castings. Die temperatures for magnesium range from 250° to 600° F with 400°F the average.

Atmospheric inspirator burners and, in many cases, raw gas are used for die preheating. These burners will have inputs ranging from 50,000 to 500,000 Btu per hour and are fired to bring the dies up to casting temperature. After casting temperatures have been reached, die temperatures must then be controlled by cooling. This cooling is usually accomplished by the circulation of water through the die.

Accuracy in Quantity

Die casting gives good accuracy for items that are generally produced in mass quantity. Where extreme accuracy is desired, centrifugal investment casting, also known as the "lost-wax" process of mold making, is often employed. This is a casting technique which has been developed for widespread industrial use in the past 15 years. There are a number of uses for gas in this process.

In die casting, the mold is made of metal and is of a permanent nature in that many hundreds of parts may be made in it before any significant change in dimensions is detected. Plaster molds used in this second method are good for one casting only.

In order to make these molds, a precise wax impression of the part to be made is first fashioned from a wooden pattern. The finishing of these wax impressions requires fine craftsmanship. Bunsen burners are used to heat the finishing tools employed in this art. Gas hot plates with burners of the upshot-ring-or star-type supply the source of heat to melt the wax before it is poured into the wooden pattern. When the wax impression is finished, plaster is cast around it to form a usable mold.

With plaster surrounding the wax, except for one future filling hole, some means must be used to get the wax out of the plaster and leave the exact impression desired. Again gas comes into play. The plaster molds are "burned out" in an oven or furnace similar to a ceramic kiln. These burn-out kilns usually have gas inputs of about 20,000 Btu per cu ft of kiln space. The gas requirements for operation are generally much lower than for a ceramic kiln, however, because of lower temperature requirements. Peak temperatures of 600° to 900° F should adequately burn out and melt out any of the wax in the mold and cure the plaster for metal casting. Burn-out periods of 30 minute to one hour are adequate. When the mold comes from this operation it is ready for filling with molten metal.

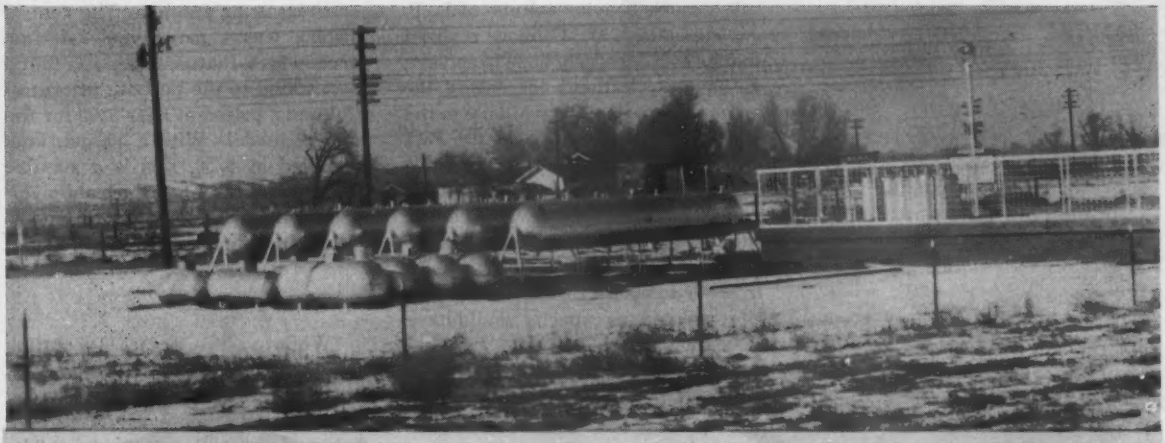
The Metals Used

Aluminum and brass or bronze are the most common metals used in this process. Because parts formed by this method are fairly small, the amount of metal needed in the molten state is relatively small at any given time. As mentioned in the discussion of die casting, pot and crucible furnaces are generally used for melting these metals—cast iron pots for aluminum melting and crucibles for the copper alloys. Heat requirements are somewhat higher per pound of metal poured because holding time is often longer and heat losses from small furnaces are greater per pound of metal capacity. Burner systems of the proportioning gas-air type are usually selected for these smaller furnaces in order to give the greatest efficiency.

After the molten metal is poured into the plaster mold, the mold is then placed in a centrifuge and rotated at several hundred revolutions per minute. This centrifugal action forces the metal into the mold cavity and toward the outer walls. The result is a casting of greater density and accuracy. After this part of the process is complete, the mold and part are allowed to cool. When cool enough not to damage the part, the plaster mold is broken away and the precise finished part is removed for use.

This process has been used to make many intricate parts for the electronics industry that originally required many hours of machining at a considerably higher cost of production. Here again, because of its flexibility, ease of control, and economical cost, gas plays a considerable part in a successful industrial process.

These are two of the processes involving metal melting—one requiring high production and the other extreme accuracy. Metal melting where casting involves sand molds and metal molds of larger size, which is also a big field, will be discussed next month. ■



Recent completion of Platte Valley's bulk storage plant, located one mile south of Brighton, has helped the company's new merchandising plan by eliminating much of the labor, time and expense involved in hauling gas to the area.

Merchandising Installation of Bulk Service Can Overcome "Saturated" Market

By Gene C. Creighton

Platte Valley Gas & Electric Co. had developed its territory to the point where 90% of its available customers were using LPG. Concentration on selling bulk service has helped this Brighton, Colo., firm build a still larger business.

WHEN a bottlegas and appliance dealer has developed his trade territory to the saturation point of gas installations, with more than 90% of the available householders taking fuel, what then?

J. B. Gilmore, head of Platte Valley Gas & Electric Co., Brighton, Colo., faced that problem, and he worked out a satisfactory and profitable answer. It called for a complete switch in operating plan and selling tactics, which included installation of bulk service and development of the home heating market.

Four months ago, after more than a decade of successful operations as a bottlegas dealer, Mr. Gilmore launched an intensive selling program designed to sell his already established bottle customers on installation of 500- to 1000-gal. permanent tanks and automatic gas furnaces to provide comfortable, odorless automatic heating throughout the bitter Colorado winters.

Since October, when the switch was made, Platte Valley Gas & Electric Co. has surged ahead with remarkable success, although, as Mr. Gilmore explained, "We are not trying to push the campaign too rapidly to the point of over-extending ourselves."

The bottlegas business, of course, from the standpoint of gas profit is actually more lucrative than the tank market but, taking the long view, Mr. Gilmore is aiming his sales methods at the installation of more than heating equipment. With adequate gas supply already assured by the 500- to 1000-gal. tanks, he is going after the complete appliance market, including range, water heater, and heating plant.

Convenient Storage

The decision to set up the all-inclusive sales program was helped along by the recent completion of a 50,000-gal. bulk storage plant, built by the wholesale Modern Appliance Co. of Denver, 20 miles away, to eliminate much of the labor, time, and expense involved in hauling gas into the Brighton area. The new plant, located a mile south of Brighton, is serviced by Modern Appliance, but operated by Platte Valley Gas & Electric Co., and provides a more than adequate supply of butane for the entire territory, at minimum transportation costs.

BPN field report

Before launching the program last October, Platte Valley Gas was servicing around 1500 accounts, which, except for a few commercial outlets, were based on twin-bottle hook-ups, and serviced at intervals from two to five weeks.

The Colorado concern feels that its high ratio of bottlegas installations per prospect in the area is at least partially due to the handsome hook-up, which is turned over to the home owner on a life-time lease basis. Included is a stand specially constructed to Platte Valley's specifications, which consists of a 3- by 2-ft platform of heavy, ribbed transite, a rear support, and a polished steel cap over the bottle connections which bears the embossed name "Platte Valley Gas & Electric Co.," and which gives maximum protection to connections from sun, rain, snow and other weather problems. The customer pays $30 for the first installation, including the gas, and thereafter it is maintained permanently by mechanics of the Gilmore organization.

Salesman at Platte Valley demonstrates an L. P. gas range to a farm couple who have already installed bulk service.

90% Already Sold

With all but 10% of the total market in the financially-sound farming districts already sold, and bottlegas volume up to just about its maximum, the average dealer would have been content to sit back and enjoy life. However, with an ambition to sell a much heavier volume of L. P. gas appliances, Mr. Gilmore realized that he could scarcely hope to achieve an increase without increasing the amount of gas supply available in the average farm home. With the two-bottle hook-up used primarily for a L. P. gas range, and from point to point, an automatic gas water heater, the average gas supply requires replacement in from four to six weeks. In order to install residential heating a far greater gas capacity would have to be insured.

"We have felt that the late fall of 1954 was the ideal period," Mr. Gilmore pointed out, "inasmuch as comments from our customers indicated that the majority were weary of the odor, and trouble associated with oil-fired circulating heaters (which were almost universally used throughout the countryside.) Therefore, we decided to capitalize on the experience which the usual home owner has already gained with L. P. gas for cooking, and offer the same convenience, controlled heat, and instant starting which butane would offer."

Contact with customers has been made in a variety of ways, and in all cases the user is offered the substantial saving which LPG at 13 cents for 500- to 1000-gal. tank delivery offers compared with the standard 28 cent price in twin-bottle service. Direct mail has been used, as have personal calls by Mr. Gilmore, and one full-time salesman, and store contacts.

The first 60-odd tank sales were actually accomplished within the store itself, as customers came in for one reason or another. The central display was a panel-type wall furnace, which Platte Valley has found best suited to the purpose in central Colorado, priced at near $300 for the deluxe model. With a 500-gal. tank installed at $250, this is a sizeable investment, but one which the average farmer is quite willing to undertake, Mr. Gilmore has found.

Increase in Load

"While we are actually cutting down on gas profit, the gradual increase in the load, plus the appliance prospects which every large tank brings about, will make up for it," he emphasizes. "For example, with a $125 water heater, a range up to $400, and the furnace and tank installation, the sale can easily amount to $1000. Such has been the case in several instances. Since our good will is already well developed with veteran customers, we have had little difficulty in selling the fuel itself and find that our number one sales problem is simply getting the farmer to spend the amount of money involved in the tank installation. Once he does so, appliance sales will follow."

A large percentage of tank sales during the first four months of the campaign were directly traceable to Platte Valley Gas' two delivery routemen, who are offered 5% commission on sales which stem directly from their efforts. Both of the drivers have been selling enthusiastically, making evening calls, and employing each home heating furnace installation as the springboard for making still more sales. To meet the load which the heating plant installation is bringing about, Platte Valley Gas has two 1500-gal. double-deck delivery trucks and will add another when necessary.

The Colorado dealership is convinced that before two winters have passed, at least 50% of its established customer list will have switched over to automatic L. P. gas home heating and that probably half that number will add one or more appliances with the convenience of the additional gas supply. In addition, the commercial market has opened up substantially in recent months, inasmuch as there have been several restaurants and roadside taverns constructed. Almost all of these were equipped with 1000-gal. tanks, which permit butane heating, cooking, water heating, all on the same installation. ■

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For further information, prices or quick service, contact The Weatherhead Company, LP-Gas Division, Dept. G-1, 300 E. 131st St., Cleveland 8, Ohio. Or try convenient Weatherhead sales and warehouse locations in Atlanta and Memphis. In Canada: The Weatherhead Company of Canada, St. Thomas, Ontario.

A CREDIT BUREAU IS THE KEY TO A SOUND CREDIT POLICY

PART 3

What to Do About Collection Headaches

When past-due accounts confront the dealer, there are two plans of action open to him. He can follow up these accounts himself, which takes a good deal of time, or he can turn the account over to the credit bureau collection service division.

By Harold A. Wallace
Associated Credit Bureaus
of America Inc.
St. Louis, Mo.

ANY credit granter who is doing a good job of promoting credit sales is going to have some credit losses. Competition, occasional errors in judgment and changes in some customers' economic status mean losses. The question is then, what is the dealer going to do about past-due accounts?

There are two courses of action open in dealing with those accounts. First the dealer can follow past-due accounts aggressively and devote much of his time to this work. Under present day conditions, that is impractical. He is too busy adding new customers, selling them appliances, serving them with installations and repairs, and contributing to the expansion of his business to be bothered with correcting old mistakes.

Second the dealer can turn accounts over to the local member of the Associated Credit Bureaus of America, Collection Service division.

The use of a collection service as a feature of a sound consumer-credit policy is the subject of a release by the U. S. Department of Commerce through the Office of Small Business. Portions of this release are quoted here because they present information to aid in collecting past due accounts:

A Positive Plan

"In formulating your credit policy, it is important to draft a definite follow-up plan for those accounts which become past due. Although merchants have differing policies as to when an account actually becomes past due, it is generally agreed that if there has been no remittance by your customer within 30 days following the receipt of your bill some action should be taken.

"To begin the procedure the merchant should send an additional or reminder statement at the end of the regular billing period. The purpose behind this step is to collect as soon as possible from those charge customers who are somewhat lax in paying their bills promptly, even though they have every intention of paying them eventually.

"If he does not respond to the second notice or if the account is permitted to lie dormant for a period of 60 days from the receipt of the original bill, it should then be classified as a past-due account. Experience has proved that as accounts age they become more difficult to collect and losses are higher. For example, it is said that a current account dollar shrinks to 90 cents at the end of three months, to 50 cents at the end of six months, and by the end of the year's delinquency, it is down to 30 cents in value. This makes it important to take some definite early action toward collection. Such action may take the form of a friendly letter, a personal telephone call, or a personal call on the customer.

Varying Procedures

"The procedure varies according to the length of time the customer has been dealing with you, the amount owing, and the frequency with which the customer buys from you. If he is an old customer or if he buys from

you to a great extent, it may be unwise to deal as firmly with him as you would with a new or an infrequent purchaser. The action taken also depends upon the time you have to give to collection procedures. Most small businessmen are extremely busy people who must devote attention to all the management problems in operating a business. Frequently, they find it difficult to follow up properly on delinquent accounts. If you find this true in your business, you face the alternative of (1) excessive losses through charging off bad debts or (2) turning to an outside collection specialist.

Advantage of Collection Service

"There are several reasons why a good collection service can be helpful: (1) It specializes in collecting past-due accounts. It is equipped with all the necessary tools to do a successful job. (2) Definite procedures and methods proved through years of experience have been set up to handle each type of account and each type of debtor. (3) Many collection services maintain affiliations with local credit bureaus, which provide the collection service with all available information regarding the debtor, including the stores with which he has accounts. The collection service can frequently use this information in convincing the debtor of the importance of maintaining a good credit record. (4) A good collection service has the facilities for forwarding your account to any part of the country when your debtor has left the city. Ability to locate debtors is also made possible through this affiliation.

A collection service has facilities for forwarding an overdue account to any part of the country when the debtor leaves the city.

"Taking into consideration the fact that your accounts have already become past due and that during this time there has been no indication received from the debtor of his intention to pay, some definite action must be taken.

"In the majority of cases you will find that the loss resulting from bad debts will far exceed the cost of turning the accounts over to a collection service. Generally collection rates depend upon the size and the age of the account. The type of account might have some bearing on the rate charged. Those agencies whose rates might seem high to you at first glance will, in many instances, offer a more complete service. In any event, it is important for you to go beyond the rate schedule to determine whether you should use a particular service.

"Definite organized activity, demonstrating that the collection service is devoting attention to each account, is a good indication of the efficiency of the service. For example, each account turned over to the collection service should be acknowledged promptly. A specific set of rates should be quoted for your benefit. Periodic reports, if you so request, should be a part of the service, and, finally, prompt remittance after an account has been paid is vitally important.

A Close Relationship

"Many of the credit bureaus throughout the nation maintain their own specialized collection departments. In addition, the bureaus work closely with the reliable collection agencies in the same community. Because of their close relationship with their local credit bureau, merchants frequently use the collection department of the credit bureau for their collection service.

"There are several important reasons which justify this practice:

"(1) The credit bureau has all available information regarding the debtor, including other outstanding accounts, most recent address and current employment. With this information the collection department is in a much better position to impress the debtor with the advantages of a good credit record. Should the debtor decline to pay the account, other merchants in your community will be informed of the past-due account and future credit may be extended most cautiously to the individual.

"(2) The information available through the credit bureau will be of assistance in locating a skip. In recent years our population has become constantly more mobile. As a result, the problem of collecting from skips has become more bothersome and a large number of accounts have remained uncollected because of the credit granters' inability to locate the debtors.

Definite procedures proved through years of experience have been set up to handle each type of debtor.

"(3) It is often possible for the collection department to set up a plan for the debtor to make payments on all accounts. Many collection departments specialize in the 'pooling of debts.' In this plan, the debtor periodically pays an agreed amount to the collection agency, which, in turn, remits to the creditors their proportionate shares of the total outstanding indebtedness."

Can the dealer afford to follow through in this way on every one of his past-due accounts? Not in today's competitive picture. The dealer should set up a standard policy calling for past-due accounts to be turned over automatically to the Collection Service division member nearest him. ■

Next month Mr. Wallace will discuss the advantages of today's credit bureau over those of 60 years ago.

BPN exclusive

Depreciation Accounting Under the 1954 Revenue Act

A change to either of the new tax depreciation methods —the declining-balance or the sum-of-the-digits— will affect taxable income both in the present and future tax years. The taxpayer should have a working knowledge of both depreciation methods.

By Lawrence Lipkin
Certified Public Accountant

AS A result of the 1954 revenue act many companies will be changing to the declining-balance method of depreciation or to the sum-of-the-digits method of depreciation. Since either of these methods of depreciation can have a considerable effect upon taxable income, it is worthwhile to become familiar with them. One point that should be brought out is that a change to either of the two new depreciation methods will affect taxable income both in the current and future tax years.

The purpose of depreciation accounting is to allocate, in a reasonable and rational manner, the cost of a capital asset over its useful life. Depreciation for accounting purposes does not necessarily conform to the actual loss in value and efficiency due to wear and tear, nor does depreciation for accounting purposes measure the decrease in monetary value of the asset as it gets older. As a matter of fact, it is possible for an asset to increase in value as it gets older.

Most business firms use what is called the straight-line method of depreciation. The annual depreciation charge is computed by dividing the cost of the asset by its useful life. For example, if a machine cost $1000 and has a useful life of 10 years, the annual charge for depreciation would be $100.

The declining-balance method of depreciation is more complicated. The annual charge for depreciation is computed by applying a constant percentage to the unrecovered cost of the asset. The constant percentage is determined by taking twice the rate determined under the straight-line method. For example, if a machine cost $1000 and has a useful life of 10 years, the constant percentage to be used under the new tax law is 20%. The depreciation charge the first year will be $1000 × 20% or $200. The depreciation charge for the second year is determined as follows:

Original cost	$1000
Less: Prior depreciation	200
Remaining balance	$ 800

The remaining balance ($800) times the constant percentage (20%) equals the annual depreciation charge for the second year, or $160.

The sum-of-the-digits method of depreciation accomplishes about the same results as that of the declining-balance method. The annual charge for depreciation is determined as follows for an asset with a 10-year life: 10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 equals 55. The first year 10/55 of the cost is depreciated; the second year 9/55 of the cost is depreciated, and so on.

It is quite obvious why the straight-line method of depreciation is so widely used.

Let us now take the following example and see what the results of the

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Mr. Lipkin obtained his B.S. degree in accountancy from Syracuse university and has done graduate work at Northwestern university.

POWELL VALVES . . . THE COMPLETE QUALITY LINE . . . POWELL VALVES

. . . THE COMPLETE QUALITY LINE . . . POWELL VALVES . . . THE COMPLETE QUALITY LINE . . .

POWELL VALVES FOR MODERN INDUSTRY

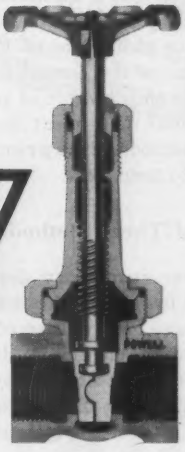

FIG. 8375 (sectional) —Bronze "L.P.G." Gate Valve For 400 Pounds W.O.G.

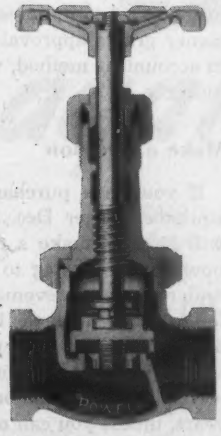

FIG. 8150 (sectional) —Bronze "L.P.G." Globe Valve For 400 Pounds W.O.G.

FIG. 8151—Bronze "L.P.G." Angle Valve For 400 Pounds W.O.G.

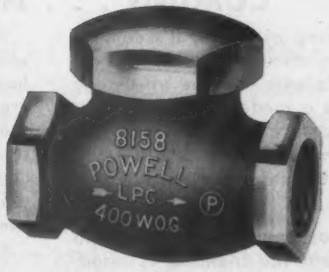

FIG. 8158—Bronze "L.P.G." Horizontal Lift Check Valve For 400 Pounds W.O.G.

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When you think of valves—think of Powell. For Powell Valves is the *complete* quality line. Powell probably makes more kinds of valves and has solved more valve problems than any other organization in the world.

Shown above are just a few Powell Valves for handling Butane and Propane. Investigate these valves . . . *and* the *complete* line of quality valves that have a proven record of long and dependable service. Angle, globe and check valves fully Underwriter approved.

Consult your Powell Valve distributor. If none is near you, we'll be pleased to tell you about our complete line, and help solve any flow control problem you may have. Write . . .

The Wm. Powell Company, Cincinnati 22, Ohio . . . . . 109th year

TABLE 1

YEAR	STRAIGHT-LINE			200% DECLINING-BALANCE			SUM-OF-THE-DIGITS		
	Annual Charge	Accumulated Depreciation	Percentage Recovered	Annual Charge	Accumulated Depreciation	Percentage Recovered	Annual Charge	Accumulated Depreciation	Percentage Recovered
1	$ 100	$ 100	10%	$ 200	$ 200	20%	$ 182	$ 182	18%
2	100	200	20	160	360	36	164	346	35
3	100	300	30	128	488	49	145	491	49
4	100	400	40	102	590	59	127	618	62
5	100	500	50	82	672	67	109	727	73
6	100	600	60	66	738	74	91	818	82
7	100	700	70	52	790	79	73	891	89
8	100	800	80	42	832	83	55	946	95
9	100	900	90	34	866	87	36	982	98
10	100	1000	100	134	1000	100	18	1000	100
Total	$1000	$1000	100%	$1000	$1000	100%	$1000	$1000	100%

various methods of depreciation will be. Assume that a machine is purchased for a cost of $1000 and that it will have a useful life of 10 years. *Table 1* shows the annual depreciation charge and the rate of recovery of the capital investment under the various methods of depreciation available to taxpayers.

Results of Three Methods

The above summary shows that during the first five years 50% of the cost will have been written off under the straight-line method of depreciation, 67% of the cost will have been written off under the declining-balance method of depreciation, and 73% of the cost will have been written off under the sum-of-the-digits method of depreciation.

Which method of depreciation is most appropriate for your firm depends upon many factors, some of which are known but most of which are unknown at the present time.

In order to make an informed decision here are some of the questions that will have to be answered:

(1) Will your profits be higher or lower in the next five years than in the succeeding five years?

(2) Will you be purchasing new equipment in the future?

(3) Will tax rates in future years go up, down, or sideways?

Since the crystal ball will not give reliable answers to the above questions and a decision must be made, a provision of the 1954 revenue act will aid you in making a choice of depreciation methods. A section of the new act states that if a taxpayer adopts the declining-balance method of depreciation, he can change over to the straight-line method whenever it is to his advantage. The taxpayer can do so without obtaining permission from the commissioner of internal revenue as was the case under the prior law. This provision does not apply to the sum-of-the-digits method of depreciation; once you adopt this method you are married to it, unless the commissioner grants approval for a change in accounting method, which is quite unlikely.

Make a Decision

If you have purchased any new equipment after Dec. 31, 1953, you will have to make a decision as to how you are going to depreciate it under the new revenue act. If you fail to change to one of the new methods of depreciation in your 1954 tax return, you will have to use your old method of depreciation in future years, unless you can obtain permission to change to another method of depreciation at a later date.

You may choose one of the following alternatives:

(1) Use your present method of depreciation, which is probably the straight-line method.

(2) Change to the 200% declining-balance method and switch back to the straight-line method at a later date.

(3) Change to the sum-of-the-digits method. ■

COMING . . . Next Month

Speaking of credit, it's come a long way since the turn of the century. It's wise to bone up on the methods a modern credit bureau uses to assure its customers of the best service. The smart LPG man can use this information.

* * *

The government stands ready to underwrite the financing of irrigation systems—but how is the farmer to arrange for this assistance? The local LPG dealer is in a good position to help and advise him.

* * *

An outstanding appliance company in the South which carries some of its own credit, tosses 5% of its 8% carrying charge into a kitty to pay for free service for an entire year. (There's another good way to make your credit work FOR you.)

Sometimes the fuel itself can be so important that it will be a major factor in pulling an industrial operation out of the red. Such was the experience of a mercury extraction plant, whose owner discovered that oil wouldn't do the job with low-grade ore. LPG would, however—and did.

* * *

How can tractor conversions best be promoted? Here's another field where LPG is coming on fast, but the technology of making conversions is liable to move far ahead of the selling efforts unless dealers turn their attention to this question.

* * *

These are just a few of the thought-provoking topics that will be covered in the April issue of Butane-Propane News.

right on schedule
Sid Richardson Gasoline Company brings deliveries to you when desired, just as the chuck-wagon follows and serves the cowhands during round-up time.
Our aim is to make deliveries of highest quality LP-Gas to you right on schedule, at the time and place you specify and in the exact quantities required. To do this we plan carefully and cooperate fully with our customers.
We are able to give you unsurpassed service, since we have no company-owned wholesale or retail outlets competing with you on our shipment schedules.
Contact us now for complete information. Let us show you how our products and service will save you money.
Sid Richardson
GASOLINE CO.
629 FORT WORTH CLUB BUILDING • FORT WORTH, TEXAS

... again without fail

Through the months of heavy demand of *five consecutive winters* the customers of Sid Richardson Gasoline Co. regularly received on-time deliveries of their contract requirements of top quality LP-Gas. We delivered every year RIGHT ON SCHEDULE, as promised in the above advertisement first published in 1950.

We invite you to become a regular customer and enjoy our unfailing deliveries and co-operation. We have no company-owned wholesale or retail outlets to divert our interest away from you. Our No. 1 responsibility is to see that our regular customers are supplied with top quality LP-Gas at a favorable price.

Sid Richardson
GASOLINE CO.

629 FORT WORTH CLUB BUILDING • FORT WORTH, TEXAS

What Am I Bid for This Angel Food Cake?

Going once . . . going twice . . . sold! And probably to the man who baked this angel food cake if he wasn't among the winners at the men's cake baking contest held by Cumberland Natural Gas.

Men's cake baking contests, held annually for the past few years in Burnside, Ky., have drawn large crowds and received favorable publicity, thus proving to be one answer to the problem of finding prospects for Cumberland Natural Gas Service.

BPN staff report

WOULD you like, for a three or four day period, to have your appliance showroom filled with the finest people in your trade territory, each with a personal reason to watch the results of cooking with gas? If so, try a cake baking contest.

Whoa, brother! Put away that gun! We didn't say run a women's cake baking contest. A women's cooking contest of any kind is a deadly serious affair, loaded with potential dynamite, and may be followed by a trail of ill will. But a men's cake baking contest is just clean fun for everybody, and if properly organized, it can bring the local citizens into the display room in droves.

Cakes for Promotion

Frances Holliday and Charlie Nead, proprietors of the Cumberland Natural Gas Service, Burnside, Ky., have been holding men's cake baking contests annually for several years. As the result of much experience they have developed the technique to a point where it has become one of the major promotional activities.

It is difficult to imagine that a contest conducted just to determine which man is the best cake baker in the county could have outstanding value as a promotional activity. Yet the Cumberland Natural Gas contests have been uniformly successful, both in attracting favorable publicity and in developing large numbers of new prospects for appliance sales and new gas customers. The last three day contest produced store traffic of more than 500 people, and closed with an auction attended by more than 150, who bid fantastic prices for the cakes baked by the 38 contestants.

The secret of this success was the motivation. Each contestant represented a civic, religious, or juvenile organization that needed funds. Each organization represented in the contest was promised an equal share of the proceeds of the auction. In addition, they all had a chance to win one of the three cash prizes. This was the "gimmick" that built up the interest necessary to draw the crowds.

Any civic, religious, or juvenile organization in the three Kentucky counties served by Cumberland Natural Gas Service could enter the men's cake baking contest. Announcements were carried in all of the local papers in these three counties giving the details of the contest.

Similar invitations to participate were sent by mail to each organization. It was felt that this was advisable because this procedure would give the company the best possible opportunity for favorable publicity during the meeting of the organization.

The prizes, $75 for first, $25 for second, and $10 for third, were prominently mentioned in the announcements and invitations. In addition to these cash prizes, which went to the organizations, each of the three winning contestants was given a merchandise prize. Each contestant had to represent an organization and any organization could send as many contestants as they could secure.

Standard Angel Food

The cakes were angel food, prepared from the standard recipe published by the University of Kentucky. To allow the contestants the opportunity for preliminary practice, the recipe was printed in the an-

Happy Cooking
METERED GAS SERVICE

means it's METERED

to OVER 150,000 CUSTOMERS

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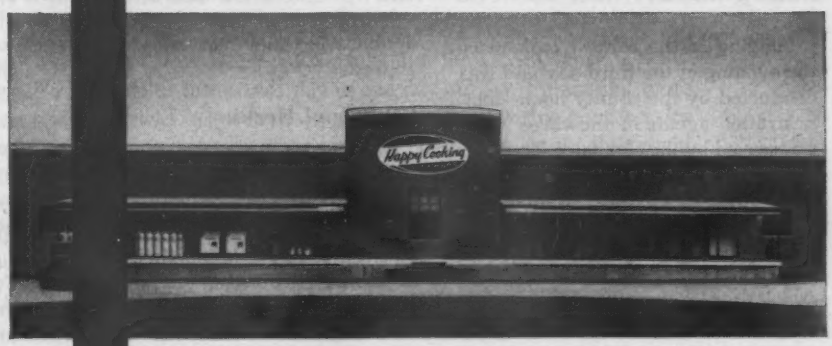
Fuelane dealers use American Meters as a selling tool . . . featuring "metered gas" in all their selling activity. And as a supplier of modern LP-Gas Service, Fuelane has found that metered service helps solve storage problems, cuts expensive cross-hauling, and enables them to supply metered service in even the remotest areas.

Dependable, accurate American meters have helped Fuelane's dealers—and hundreds of other LP-Gas suppliers as well—to dependable, accurate measurement and to the increased sales that come with modern supply methods. If interested in further information write Fuelane Corporation for their comments, or send for your free copy of "Guide to LP Metered Gas Service," from American Meter Co.



To modern plants like this in seven states, Fuelane Corporation, Liberty, N. Y., supplies a complete service to its dealers and other LP-Gas operators including Management and Engineering Consultant Service, Advertising Promotion, Sales Training Helps, and a Service Training Program.

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nouncements. Three ranges were available in which to bake the cakes and the contestants were scheduled for one hour periods at their convenience during the three contest days. All of the necessary materials and equipment were provided without charge by Cumberland Natural.

As might be suspected there was a particular reason for selecting the angel food formula for the contest. It is well known that angel food cakes cook better in gas ovens than in electric ovens, and Cumberland Natural Gas is right in the middle of some of the toughest electrical competition in the United States. The baking of an angel food cake is a rather delicate procedure. It is inclined to fall as the result of the slightest vibration, and the opening and closing of the oven door at the wrong time can be disastrous.

Sell While the Cake Bakes

It was necessary for the contestant to stay on the job until his cake came out of the oven, and the University of Kentucky recipe requires the long method of baking. While the contestant waited, the employes of the company had excellent opportunity to point out the advantages of gas equipment and gas cooking.

From this standpoint the cake baking contest has a distinct advantage over the ordinary cooking school, as it gives the opportunity to soften up the man behind the pocketbook in preparation to making the sale to his wife.

Judging of the contest took place the evening of the third day and was conducted by the county home demonstration agents of the three counties served by the company. They followed the approved judging procedure outlined by the University of Kentucky. In order to insure neutrality and fairness in judging, each cake was turned out on an identical paper plate following baking. Each contestant signed his name on the top of the plate and placed an "X" on the bottom directly underneath his name. The cake was placed on the name, thus concealing it. When the judges cut the cake, they cut on the side of the plate opposite where the "X" appeared, so the name was still covered by the uncut portion of the cake and the judges chose by the quality of the product only.

After the first, second, and third prizes were awarded, the cakes were identified by the names of the bakers, and then auctioned. The bidding became very lively. At these contests the prize cakes have sometimes brought as high as $50.

The contestants who do not place in the top three generally bid on their own products, and the knockdown price of each of these cakes is generally above $5. Apparently each contestant wants to take his own cake home, possibly to impress the little woman, but more likely because of the fact that he is unwilling to let other people find out why his cake was not the winner.

The potency of this form of pride was demonstrated during one of the contests when Mr. Nead announced that there was one cake in the group

Men's cake baking contests in Burnside, Ky., always attracts a large group of people, from which Cumberland Natural Gas Service develops new prospects for appliance and gas sales.

which had been made with salt instead of sugar. The proceeds from the cakes that year were very nearly double what they had been in other contests.

Kibitz and Heckle

Floor traffic during the contests has been notably good and this is encouraged by inviting the organizations to attend during the time that their representatives are baking their cakes, to kibitz, encourage, or just plain "kid" their representatives. They are also urged to attend the auction Everyone who comes is asked to register on forms which include name and address, the method used to cook, heat water and heat the home. The registration cards also indicate whether or not the person has certain appliances or would be interested in additional information on these.

Since the ranges which are in use during the cake baking contest cannot be disturbed for demonstration, the company sets up and connects four or five additional ranges. Whistling tea kettles and pyrex cooking dishes are on hand to make quick and dramatic demonstrations of the versatility and controllability of gas.

Clothes Dryers Starred

A complete laundry unit was kept working the entire three days of the last cake baking contest. The gas clothes dryers proved to be the top attraction of the show. Most of the wives who came in with their husbands, particularly those attending during the evening hours, spent a great deal of time in front of the gas clothes dryers. From the prospect list obtained among these women, six dryers were sold for Christmas presents.

One of the men in the contest was a heating contractor from Somerset whom the company had been trying to contact for quite a while to work out a cooperative deal whereby he would sell L. P. gas heating equipment and Cumberland Natural Gas Service would get the gas load on their new bulk service. He was given a good sales talk during the hour that he was there baking his cake, with the result that within the next few days he sold two L. P. gas heating jobs and developed prospects for several more.

Five new ranges, all CP models, were sold shortly after as the result of the cake baking contest to prospects secured at that time. On each of these sales a check for $5 was sent to the organization represented by the purchaser. This part of the plan had not been announced in advance and since it came as a very pleasant surprise to the organization, the contribution was announced at the next meeting of the group and much beneficial publicity resulted.

The Somerset Junior Chamber of Commerce took a very active part in the contest and attended the auction in a body. Its representative won third prize in the baking contest and very shortly thereafter this man telephoned Miss Holliday to tell her that his mother was moving to the country and he wished to make arrangements to have her served with gas from Cumberland.

For good clean fun and a store full of prospects, Cumberland Natural Gas recommends this annual cake baking contest—but limit it to men. ■

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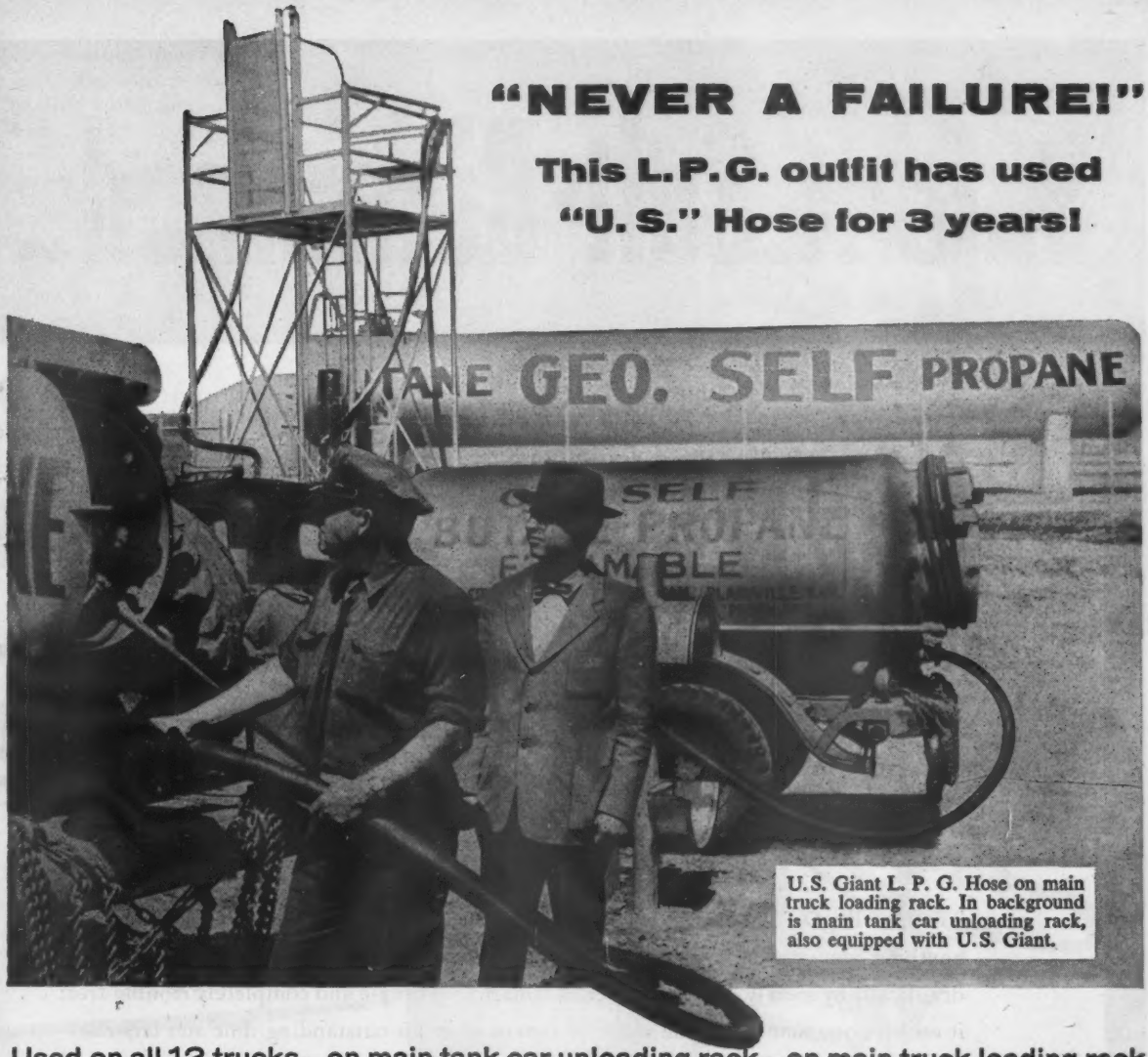
This L.P.G. outfit has used "U. S." Hose for 3 years!



U.S. Giant L. P. G. Hose on main truck loading rack. In background is main tank car unloading rack, also equipped with U.S. Giant.

Used on all 12 trucks—on main tank car unloading rack—on main truck loading rack

The George Self Butane Company of Ponca City, Okla., says that the U. S. Giant® L. P. G. Hose never seems to wear out. Despite brutal use day in and day out for 3 years and more, every U.S. Giant Hose on all 12 trucks, as well as on racks, is still delivering good service.

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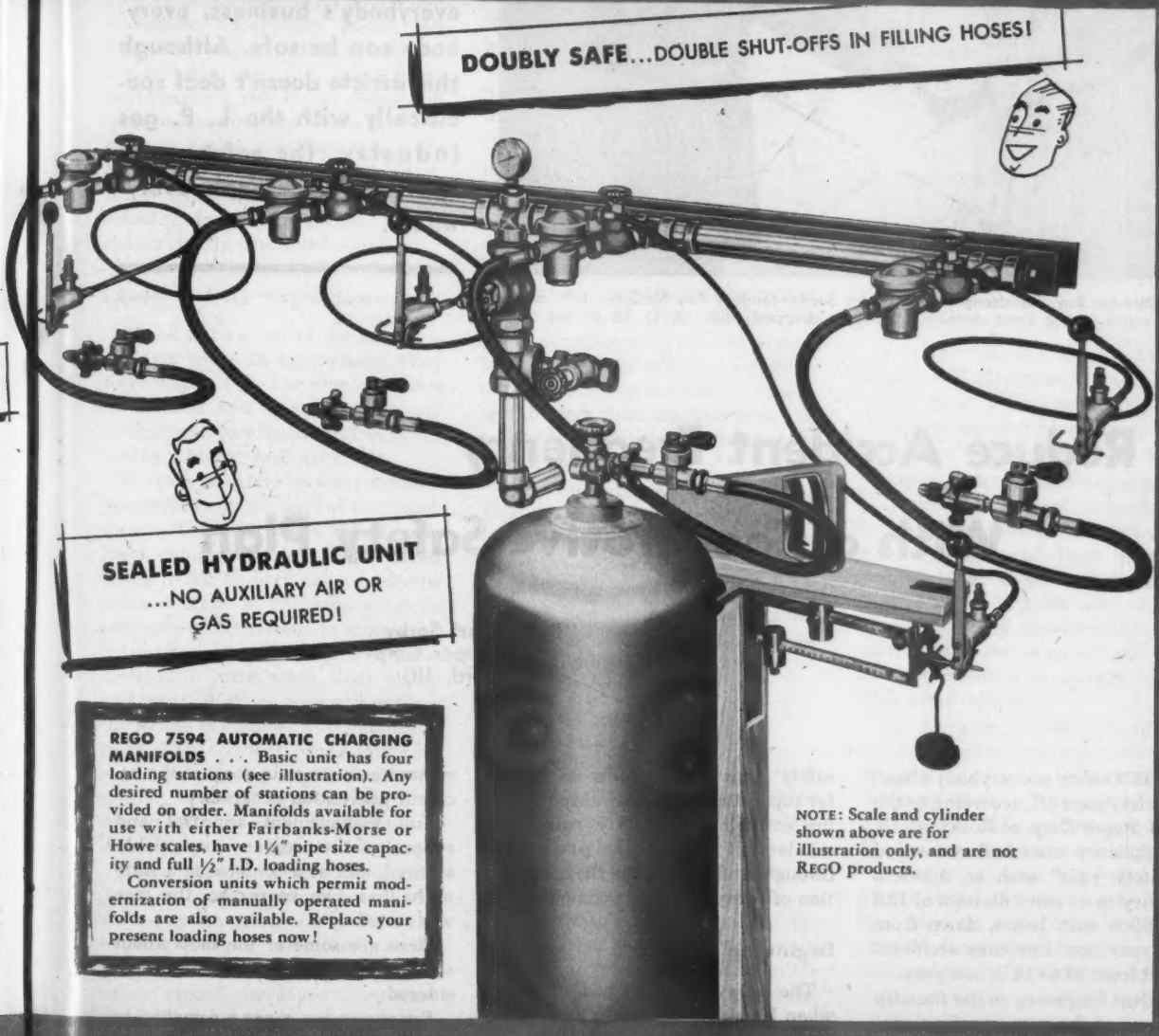
Hydraulically Operated!



REGO 7594 AUTOMATIC CHARGING MANIFOLDS . . . Basic unit has four loading stations (see illustration). Any desired number of stations can be provided on order. Manifolds available for use with either Fairbanks-Morse or Howe scales, have 1¼" pipe size capacity and full ½" I.D. loading hoses.

Conversion units which permit modernization of manually operated manifolds are also available. Replace your present loading hoses now!

NOTE: Scale and cylinder shown above are for illustration only, and are not REGO products.

The BASTIAN-BLESSING Company

4201 WEST PETERSON AVENUE • CHICAGO 30, ILLINOIS

PRECISION EQUIPMENT FOR USING AND CONTROLLING LP GASES

Safety Director Ray Armstrong congratulates Superintendent Ray McCook, left, on his safety record in the stove division. Accidents dropped from 38 to 16 in one year.

A plant-wide safety program, which has received cooperation from everyone in the company, has greatly reduced the accident frequency at Roper Corp., and proved that when safety is everybody's business, everybody can be safe. Although this article doesn't deal specifically with the L. P. gas industry, the safety rules learned here apply everywhere.

Reduce Accident Frequency With a Cooperative Safety Plan

By E. Carl Sorby
Geo. D. Roper Corp.
Rockford, Ill.

WHEN safety is everybody's business, safety pays off, according to the Geo. D. Roper Corp. of Rockford, Ill. This appliance manufacturer ended its "safety year" with an accident frequency in its stove division of 12.6 per million man hours, down from 20.8 a year ago. Lost-time accidents skidded from 38 to 16 in one year.

Accident frequency in the foundry at the end of the current safety year was only 11.5 per million man hours, down from 54.9 a year ago. Lost-time accidents dropped from 18 to 3. In the pump and ordnance divisions the frequency was 9.5 where it had been 36.8 the previous year. Lost-time accidents dropped from 164 to 27.

According to Roper, this large drop in accident frequency was due to the company's plant-wide cooperative safety plan, which included an active safety committee, forums on safety for supervisors who were responsible for enforcing the safety rules, reminders of the safety program throughout the plant and the cooperation of everyone in the company.

Beginning of Safety

The safety program had its start when Roper undertook to determine the cause of the accidents that occurred. Human carelessness was a factor, but it was not the only factor.

Roper's safety director, Ray Armstrong, studied the situation and reported to company management that the weak link was in communications at the supervisory level. Getting supervisors to accept responsibility for enforcing safety rules and recommendations made by the safety committee were twin goals of the accident prevention program.

Full management approval and support of the program was quickly secured, and at a conference a little more than two years ago, the case was stated.

Here are some of the facts about safety that the supervisors considered:

Expansion can cause a company to lose its grip on safety. It was pointed out that, when a company grows, the conventional problems like safety are sometimes obscured by the new problems caused by growth. In the expansion of Roper, safety unintentionally was nudged into a back seat. The record showed it.

Safety is not a department task; it's a plant-wide responsibility. For the first time, some supervisors be-

came aware that safety wasn't the exclusive problem of the safety director and his committee. It was the around-the-clock concern of everyone in the plant.

Lost-time accidents are costly to the company and employes — and notably to supervisors on production schedules. Supervisors knew, but some had forgotten, that a lost-time accident does more than injure a foot or damage an eye. It also raises hob with production, and while it is one thing to realize that fact, it is quite another to do something about it. Roper supervisors were accordingly asked to do something about it, and shown clearly what they could do.

Check List for Supervisors

These were a few of the many reminders left with supervisors. They were shown how lost-time accidents are figured, how frequency rates are determined, how increased frequency means a higher insurance rate.

Forums on safety brought out a lot of questions on the part of the supervisors. They were then asked to do these things: to report all injuries without fail to first aid; to become more diligent in checking employe methods of operation; to urge good housekeeping within their own jurisdiction; to insist upon clear aisles; and particularly to note and enforce the safety committee's recommendations. The accident-prone employe, supervisors were urged, should be politely escorted to personnel for a constructive inquiry and conversation.

Safety Director Armstrong saw the practical need of getting everyone involved in the safety drive. With the backing of supervisors, newly-awakened to the desirability of a good safety record, employes themselves slowly became more safety-minded. The safety committee, regarded in some plants as a sort of gestapo, came to be looked upon as a constructive force for the plant good.

Mr. Armstrong and his committee one by one drew into the cooperative framework the union officials, members of engineering and plant maintenance departments, the medical and first aid departments (including employes who went there for treatment of injuries), and the insurance company representatives.

Everywhere one turned in the plant there was some reminder of the safety program. The vending machines gave out not only cigarettes, but matches with compelling safety slogans printed on them. Posters of local plant manufacture were used, along with the more forceful of the syndicated type. The safety drive was highlighted regularly in the Roper newsletter, mailed each month to the homes of employes. The Roper "house organ," appearing from time to time as paid advertising space in the Rockford newspapers, gave recognition to worthy safety efforts, and pictured those who were aiding the cause.

Like the baseball pitcher who finds himself with a no-hit game in the making, the safety committee found itself creeping toward the million man-hour mark. The contest was given impetus with announcements over the public address system, in the newsletter, on the bulletin boards, and through thermometers which recorded the upward movement of the no-accident drive.

Unfortunately, the hoped-for goal was not reached, but the employes were close to the three-quarter stripe when the record was broken. Undaunted, the committee picked up where it had first begun, and started to re-kindle the plant-wide enthusiasm, beginning another no-hitter.

A Safety Guide

Some of the entries in Mr. Armstrong's log book might be a guide to others with safety enforcement problems:

(1) *Put safety on a personal basis.* Include everyone. To control human behavior in preventive safety, the program should be directed toward and built around the individual or his group. We must sell the employe the idea that he benefits directly by working safely, and that, as a result, everyone along the line benefits. The company must always show an enthusiasm for the safety program and interest in employe welfare.

(2) *Establish clearly the duties of the safety director.* At Roper, he has the authority to administer the overall safety program as approved by the management. He maintains the records on the progress of the program. He keeps the management informed, not of the minor steps but of the major events. He has the authority to select his safety committee, and he keeps it rotating. He works closely with the insurance company representatives, as well as with supervisors, union officials, the medical and first aid departments, plant engineering and other departments. He maintains his own safety communication program, conducts safety meetings as needed, and keeps himself posted on developments in the field of safety.

(3) *Secure the whole-hearted and continuous support of top management.* The sale of safety to management itself is a vital sale, and must be repeated—management executives are busy with many matters. But it should be constantly demonstrated to management that safety is important as a means of lowering operating costs and of keeping employe morale at a high level.

(4) *Keep in close touch with line supervision.* Supervisors must accept their safety responsibilities and should be urged to show genuine interest in the employes' welfare.

Supervisors naturally are expected to make out accident investigation forms and recommend corrective action. The new employe must be trained in good safety practice, so that he wants to work safely for his own good. The supervisors should be alert to preventive safety and have hazards removed as quickly as possible after detection.

(5) *Develop a good form of continuous communication on safety.* In general, avoid too great use of "canned" safety material, some of which is not effective with employes. Use posters that are new and striking, and which have a definite local-plant appeal. Let employes know how they are doing on safety—compliment them when they have done well and ask help when you need it.

The directors of safety in plants around the country are sometimes inclined to look upon themselves as operators in the No-Man's-Land of industry. But it can be everybody's land if everybody is included. At Roper the employe response to a well organized, consistent and intelligent safety campaign was clearly shown in the sharp reduction in lost-time accidents. There is no better form of response to a safety appeal than that. ■

New Products and Trade Literature

To secure further information on products or new publications, fill out the coupon and mail, indicating by number the information desired.

1. Non-Cylindrical Water Heater

Permaglas division of A. O. Smith Corp. has introduced color, created a non-cylindrical shape and added an eye-level temperature control knob to its 1955 water heater models.

Although it still houses a round inner tank, the new water heater exterior has a square look with a flat front and sides that taper slightly outward. The angular contours enable the 1955 model to fit beside or between standard rectangular appliances in the kitchen-utility areas.

The front panel of the deluxe water heater is an aqua hue and is easily removable to provide access to the interior controls and combustion chamber of the water heater. A checkerboard pattern of white and aqua has been applied to the lower part of the panel.

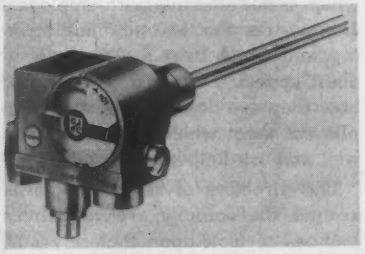
The "Eye-Hi" temperature controls provided finger-tip control for three general positions indicating warm, normal, and hot. Although the manual adjustment is at the top of the heater, the working controls are, as usual, at the base of the inner unit. A cable mechanism connects the two and does away with stooping and fumbling. The "Eye-Hi" is also out of reach of small children.

The closed-end tank structure permits a more compact design, lowers the over-all height of the water heater, and extends the opportunities for installation.

A 10% increase in hot water delivery by the deluxe 30-gal. gas water heater has been accomplished by boosting its heat input rating to 33,000 Btu/hr.

A. O. Smith Corp.

2. Water Heater Control



A water heater control that combines lighting, reset and temperature adjustment in a single control dial is being manufactured by General Controls Co.

This G-5 model will supplement the recently introduced G-7 twin-dial control, which also features simplified operation plus modern appearance.

The single dial includes both the lighting sequence and temperature adjustment, plus safety feature which will keep the main burner off until the pilot is properly lighted. The G-5 provides 100% safety shutoff of both pilot and main line gas in the event of an unsafe lighting condition or pilot outage.

General Controls Co.

3. "Cool" Pilot

Savings of as much as 5 cents a day are claimed for "Magic-Lite," cool pilot ignition system developed by Magic Chef Inc. These savings figures are based on a cylinder of L. P. gas costing $9 per 100 lb.

Standard ranges equipped with conventional ignition systems will use 700 Btu's per hour, or 7 cents worth of propane per day, the company states. On this same type of range with a separate oven and broiler, the usage would be 800 Btu per hour, costing 8 cents per day.

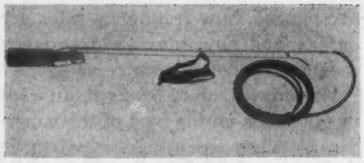
With Magic-Lite ignition, however, pilot operating costs are cut 75%. Magic-Lite top pilots use only 50 Btu per hour, so a range with two Magic-Lite top pilots at 50 Btu each and one oven pilot at 100 Btu per hour will cost 2 cents per day.

A Magic-Lite equipped range with two top pilots, an oven and broiler pilot at 100 Btu per hour each, will cost only 3 cents per day.

This cool pilot ignition system utilizes a tiny coil of nichrome wire and a bead of flame.

Magic Chef Inc.

4. Weed Control Torch



A flame-thrower type agricultural torch is offered by Agricultural Equipment Co. for weed control in farm ditches, fencerows, driveways, and for other agricultural and industrial applications of flame.

Burner is self-generating, using liquid fuel, with consumption up to 20 gal. per hour, and equipped with windproof pilot, trigger control valve, and adjustable shoulder sling. It has a high pressure LPG hose to the fuel supply, which may be ICC cylinder, tank on tractor or pick-up, or any mobile tank. Burns a 3-ft swath about as fast as a man can walk.

Agricultural Equipment Corp.

5. Switch

Development of a completely-sealed, subminiature snap-action switch is announced by Micro Switch of Freeport, Ill., a division of Minneapolis-Honeywell Regulator Co.

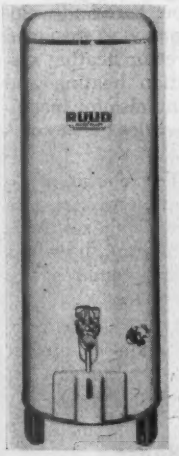
It is designed for automotive, marine and aircraft applications where small size, light-weight and environment-proof construction are required.

The switch, designated ISEI, gives trouble-free operation in temper-

atures ranging from —65° F to 180° F. Complete sealing is accomplished with a silicone rubber plunger seal, bonded both to the pin plunger and the metal housing, and by embedment in an epoxy casting resin inside the housing. The exterior housing is corrosion-resistant treated aluminum. Preliminary laboratory tests indicate a minimum mechanical life expectancy of 300,000 operations.

Micro Switch Division
Minneapolis-Honeywell Regulator Co.

6. Gas Water Heater



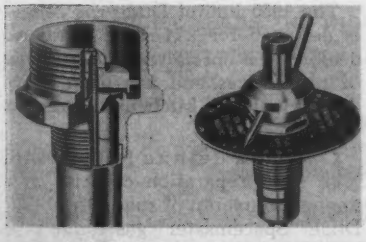
Residential L. P. gas water heaters with solid, prescription-built aluminum alloy tanks, that prevent red tank rust, at a first cost comparable to enamel-lined tanks, are announced by Ruud Manufacturing Co.

The four models of the Ruud Alcoa alloy automatic gas water heaters are the result of many years of research and development by Ruud and the Aluminum Co. of America.

The units are identified as Ruud Alcoa alloy models A24-25, Btu input 30,000, one-hour performance rating of 49 gal.; A30-30, Btu input 35,750, one-hour performance rating of 60 gal. and a laundry rating of 30 gal. an hour; A36-40, Btu input 47,500, one-hour performance rating of 76 gal. and a laundry rating of 40 gal. an hour; and A54-50, Btu input 60,000, one-hour performance rating of 104 gal. and a laundry rating of 50 gal. an hour.

Ruud Manufacturing Co.

7. Valves, Gauges



Several items have been developed by S & L Manufacturing Co. to be added to its line of anhydrous ammonia valves and fittings. These include internal and external relief valves, rotary gauges, excess flow check valves, and several types of needle valves.

The S & L internal relief valves are made in both ¾- and 1¼-in. sizes and feature a new design which permits changing the non-metallic seat (hycar disc) without evacuation of the container.

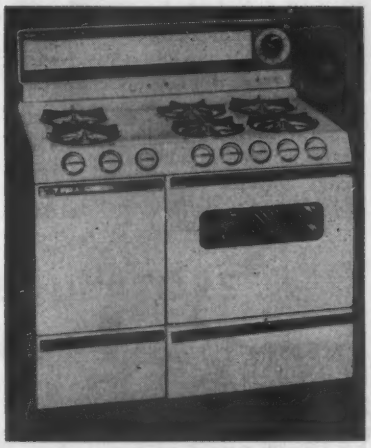
These valves also employ such features as a fully guided spring, a full flow throat and a resealing action to insure minimum loss of fuel.

S & L rotary gauges designed for all anhydrous ammonia installations to determine the amount of liquid in the container are made in ¾-in. and 1-in. sizes. The rotary gauges provide double seal type construction.

A primary seal is accomplished with an "O" ring which creates a seal between the rotary gauge stem and the body. The secondary seal is effected with a hycar disc which is held tightly in place against the body seat by means of interior tank pressure.

S & L Manufacturing Co.

8. Restyled Gas Ranges



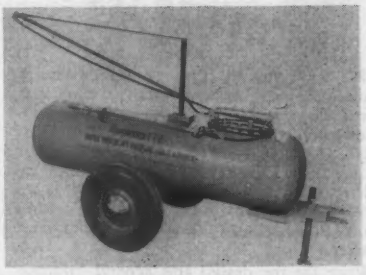
Caloric's line of 1955 ranges has been restyled from top to bottom. Caloric's Roto-Ray Barbequer is available in both 36- and 40-in. clock-controlled Hi-Broiler ranges. Motor driven, the Barbequer spit rotates meat, poultry or game under the radiant burner in the broiler. The spit rests in an easily removable bracket and a detachable handle allows easy carrying to table or terrace.

There are ovens in three different widths: a 13-in. pastry oven, a full size 16-in. oven, or the large "Harvest" oven, which is 20-in. wide. The homemaker can choose a two-oven range, or a high level broiler with rotisserie, and she may have automatic oven and broiler lighting, four burners or six, in a divided or cluster arrangement.

Needle pilots, a Caloric adaptation of the "hypodermic" needle pilots, are used with all surface burners.

Caloric Appliance Corp.

9. Weed Burner



For the farmer or property owner requiring a weed burning outfit with

BPN

READERS' SERVICE COUPON

Just fill in this coupon for Products information and copies of new publications, and mail to

BUTANE-PROPANE NEWS, 198 S. Alvarado St., Los Angeles 57, Calif.

3/55 Fill in numbers of items in which you are interested.

No. ..... No. ..... No. ..... No. .....
No. ..... No. ..... No. ..... No. .....

NAME AND TITLE.....

FIRM'S NAME.....

ADDRESS.....

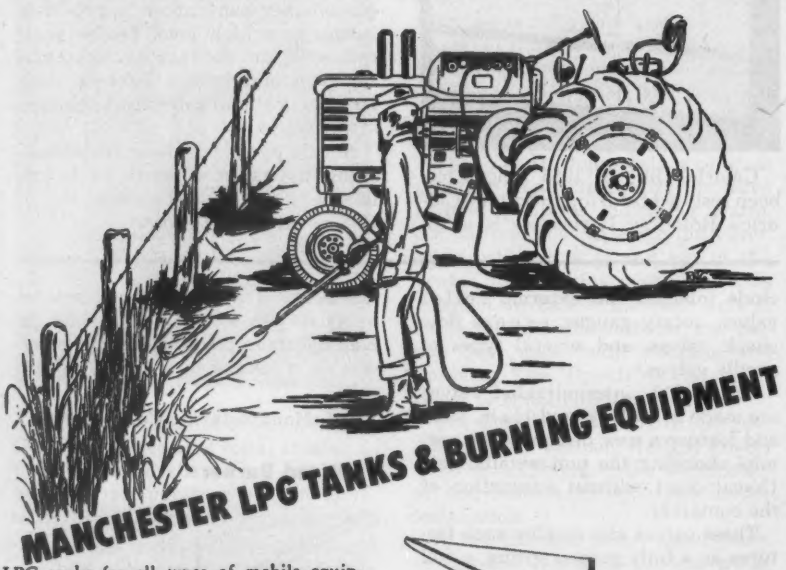
CITY..... ZONE..... STATE.....

more working capacity than those operating from ICC cylinders, Manchester Welding & Fabricating Co. is offering the 172 super power-jet propane weed burner. A 150-gal. net LPG tank is built up as a trailer, using 6.70 x 15-in. tires, trailer hitch, and adjustable stand for leveling.

Tank is equipped with UL-approved valves and visible float gauge. Valves and fittings are protected by combination guards and hose wrap. It comes equipped with one super power-jet hand burner, 59 in. long, weighing 4¼ lb, connected to tank with 25 ft of ¼-in. LPG hose. Boom with 270° swing is provided to keep hose off ground.

Fuel consumption: up to 12 gal. per hour. Tohch includes quick acting main valve and windproof pilot, and throws flame up to 8 ft. Provides economical weed control for farm ditches, fencerows, driveways, and areas where a single burner will operate more economically than a heavy multiple-burner machine.

Manchester Welding & Fabricating Co.



MANCHESTER LPG TANKS & BURNING EQUIPMENT

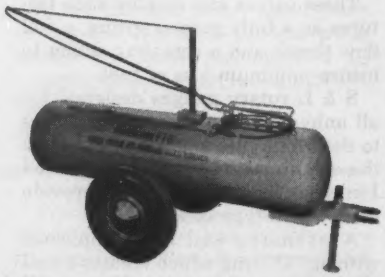
LPG tanks for all types of mobile equipment are our business. Our years of job experience with every conceivable conversion problem have resulted in a wealth of standard models "made to order" for your equipment. We save you money, not by cheapening the tanks, but through faster and simpler conversion, greater operating convenience, and unmatched operating safety.

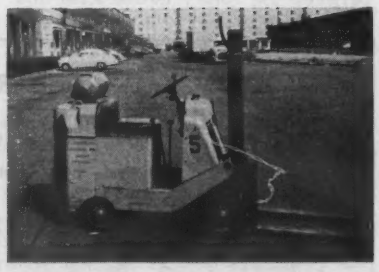
Write for the design and general information chart, including tables for figuring tank capacities.

The new Manchester ditch bank burner saves up to 40% on ditch bank maintenance.

Highly efficient "Power Jet" hand burners may be fed from tractor or pick-up tank as well as from separate cylinder. Constant wind-proof pilot, quick-action valve – flame only when needed. Two to six foot power jet flame – for most effective burning. Lightweight – easy to operate with one hand.

Inquiries from good dealers are invited.





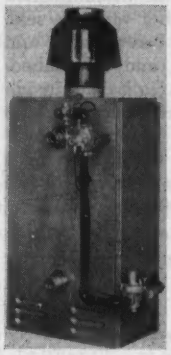
Write to Manchester for Literature

MANCHESTER Welding & Fabricating Co.

NEwmark 1-9357 or NEvada 6-2839

2880 NORTON AVENUE, LYNWOOD, CALIFORNIA

10. Water Heater



An automatic, instantaneous gas water heater which features modulated heat control for circulating hot water heating systems in homes has been introduced by McIntyre Engineering Co. Inc.

Called the M-E Universal, the unit has an all-copper core and welded tube construction. It is designed for radiant or convector heating systems, for combination heating and hot water supply, and also for instantaneous hot water service in commercial applications.

AGA-approved for operation on natural, mixed, manufactured and L. P. gas, it is offered in sizes from 110,000 to 160,000 Btu input. It weighs 120 lb, uncrated, and requires less than 2 sq ft of floor space.

The steel cabinet, finished in gray enamel, includes a slide-out burner assembly for ease of servicing.

McIntyre Engineering Co. Inc.

11. Kitchenette Range

The 1955 line of Dixie gas ranges is designed for kitchen appliance dealers who specialize in a full line of range sizes and has been introduced with a kitchenette-size gas range.

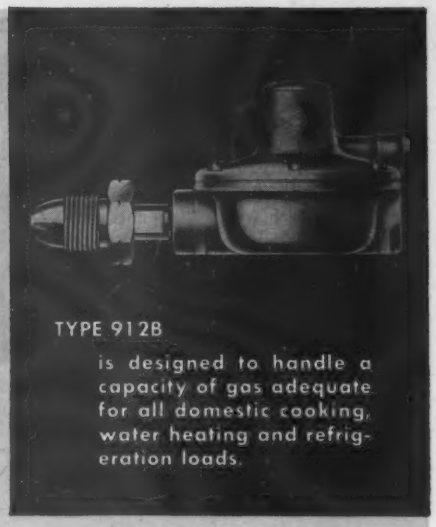
Combining deluxe features with high food-preparation capacity in a minimum amount of space, the 14F-7 Dixie "Spacemaster" gas range provides more space and cooking facilities for the small kitchen. It incorporates such big-range convenience features as a fluorescent backguard

Since 1880

FISHER®

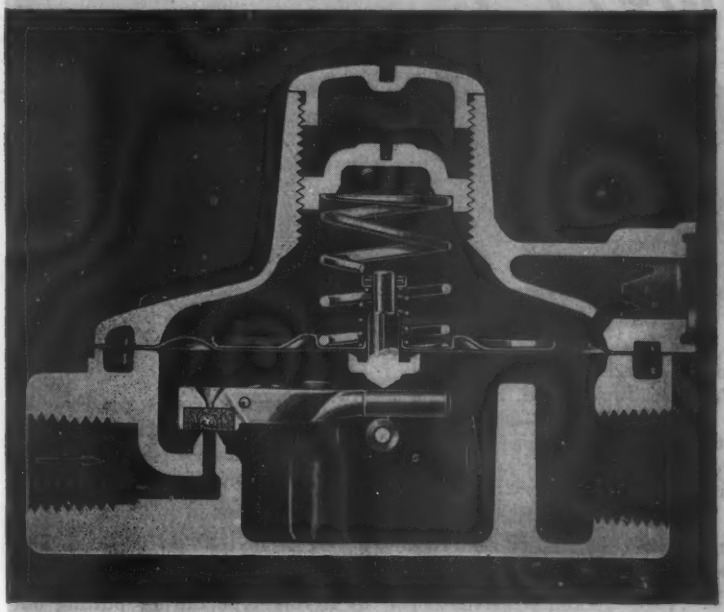
Series 912

"LITTLE JOE" REGULATORS
57 CFH MINIMUM CAPACITY



TYPE 912B

is designed to handle a capacity of gas adequate for all domestic cooking, water heating and refrigeration loads.



FEATURES

- **STURDY CONSTRUCTION**
- **IMPROVED VENT**
- **IMPROVED DISK HOLDER ASSEMBLY**
- **57 CFH MINIMUM CAPACITY**
- **STURDY PIPE CONNECTIONS ¼" INLET, ⅜" OUTLET**

Available as Type 912T with circular nameplate.

The *remarkable performance* and *fine features* of the "Little Joe" account for the steady demand which has placed many hundreds of thousands of these units in *highly satisfactory use* all over the country.

FISHER LEADS THE INDUSTRY IN RESEARCH FOR BETTER GAS PRESSURE CONTROL

TYPE 912 Y-1850A

is an economical, completely dependable two-cylinder check valve manifold assembly.

MEMBER national LP-GAS PROMOTIONAL program

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MARSHALLTOWN, IOWA

Eastern Office: 212 New Dickson Bldg., Westport, Conn.

lamp, electric clock and timer, electric convenience outlet, oven heat control, oven door window and automatic oven light.

Gray porcelain burner grates, aluminum burner caps and white porcelain drip trays give permanent cleaning ease. The large, full-width oven with space and baking capacity to prepare a 25-lb turkey is located directly above the drop-front broiler with two-piece adjustable broiler pan and porcelain burner box bottom. Oven and broiler are insulated to provide even baking temperature control.

Dixie Products Inc.

12. Fire Extinguisher

A new streamlined fire extinguisher, said by its manufacturer to be rugged, effective and easy-to-use, has been introduced by Ansul Chemical Co.

Designed primarily for industrial use, the new unit is capable of expelling 10 lb of dry chemical, a most effective extinguishing agent against fires in flammable liquids, gases, chemicals, and electrical equipment. Its light overall weight of 22 lb and simplicity of operation make it suitable for use also by housewives against fires in the home.

The designers have eliminated the ring-pin on the extinguisher, thereby speeding up the job of putting it into action. Instead of having to pull a ring-pin—which, for comparative purposes, functions like the ring-pin of a hand grenade in serving as a safeguard against accidental discharge—the user now merely applies additional hand pressure to puncture the CO_2 pressure cartridge that activates the extinguisher.

Other design changes include a new-style fill cap that is considered more effective in keeping moisture out of the extinguisher shell; a more practical and functional carrying handle that is less subject to vibration on vehicles, and an easy-to-operate, squeezable nozzle.

Ansul Chemical Co.

13. Tobacco Curer

A new type tobacco curer designed specifically to meet the problems and conditions encountered in the curing of southern bright-leaf tobaccos has been developed. Named "Colo-rite," this curer incorporates two independent burners in each unit, a small 8000 Btu central burner surrounded by a ring type burner putting out 22,000 Btu.

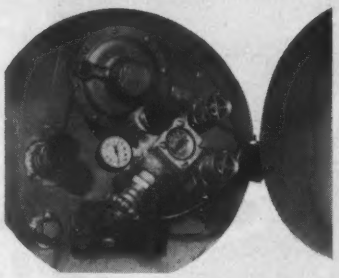
With the large and small burners operating in unison, each station will produce 30,000 Btu's. Nine units are used in a 16 by 16 ft barn, which provides 270,000 Btu's when high temperatures of 160-180° are needed for quick drying of the stem.

By operating only the small burners in each station, equal distribution of low heat, controlled by thermostat, is available for the coloring period. This is claimed to be a distinct advantage over single burner construction, with which it is necessary to cut off some of the burner stations, giving less uniform coloring.

The Colo-Rite heater has been approved by the North Carolina Department of Agriculture.

Colo-Rite Manufacturing Co.

I think it's Swell . . . it's a BAGWELL !

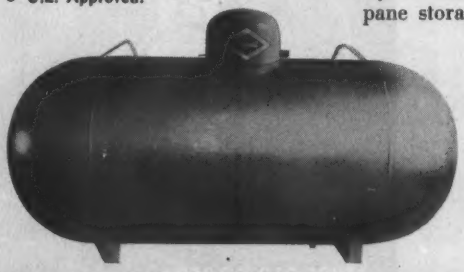


- Dry tank minimizes freeze-up.
- Separate 1¼" fill valve.
- Full width strap legs.
- Large safety-plus orifice regulator.
- One piece extra heavy drawn steel dome.
- Easy to read "senior" size float gage.
- Bottom plug makes cleanout easy.
- ASME U69.
- U.L. Approved.

Customers appreciate Bagwell General Propane Tanks. Our dealers tell us so. And bulk plant operators agree that the consumer has to be satisfied with the tank to be satisfied with his service.

That's one of the reasons we stay alert and make every effort to offer you the best tanks and the fastest delivery possible at the best competitive price.

We've met the demands of many dealers, and we'd like an opportunity to satisfy your needs for propane storage tanks.



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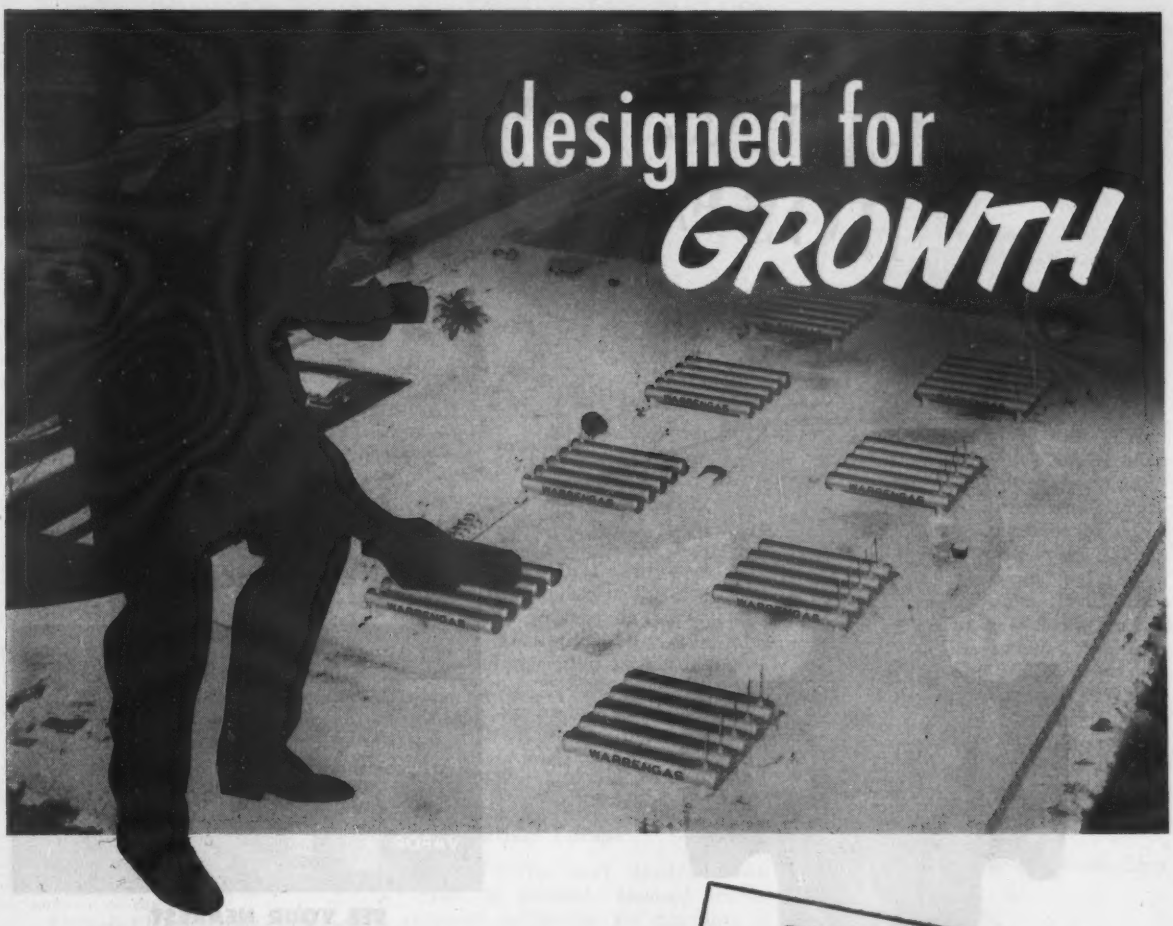
BAGWELL GENERAL STEEL COMPANY

SAPULPA, OKLAHOMA

Call us: Sapulpa 2680 Tulsa 50-8500

Write us: P. O. Box 391



acf "Space-Saver" Storage Tanks are ideal for companies where installation space is at a premium today...or perhaps tomorrow! For example, an **acf** "Space-Saver" will give you the same 30,000 gallon capacity in a 50-foot length...as compared with the usual 71-foot-long tank.

Large diameter **acf** Tanks save you money all along the line. 30% less installation space! Single-car shipment! Cross-loading on export barges! And thanks to lighter weight...they allow easier rigging and handling!

New **acf** "Space-Saver" Tanks are available in capacities of 30,000 gallons down to proportionately small ones...for L-P gas, anhydrous ammonia, and other gases or liquids under pressure. For more specific details, write or call: Dept. 3-B, **acf** Industries, Incorporated, Industrial Products Division, 30 Church Street, New York 8, N. Y.

ONLY acf OFFERS ALL THESE FEATURES

Complete Stress Relieving eliminates stresses set up during forming and welding . . . provides resistance to fatigue caused by temperature changes or pulsating loads.

Complete Radiography of every welded seam assures freedom from slag inclusions, porosity and undercutting.

Hartford Steam Boiler Inspection in accordance with ASME 1952 Code W-XR-SR.

Steel Grit-Blasting of tank exteriors to remove mill scale, resulting in a smooth surface for primer, less labor and paint are required for the finish coat and less frequent repainting needed.

Manway for thorough internal inspections and cleanings.

Steel Saddles and Supports for installation on flat foundations are optional.

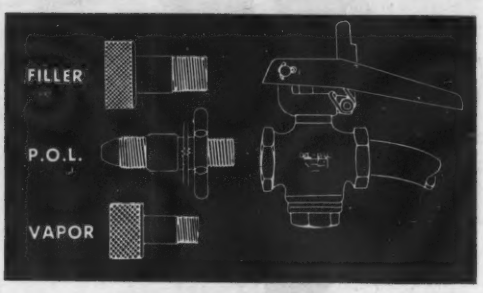
acf ...STORAGE TANKS...SAFETY VALVES

SEL-PAC SAFETY HOSE VALVE

FOR DISPENSING LP-GAS

sel-pac

SELF-BLEEDING
QUICK-FILLING



This safety quick-filling hose valve begins to pay off the day you install it. Use it for all filling operations — trucks, buses, domestic tanks and cylinders. You will fill faster, safer and with no danger of liquid burns.

The fast and positive lever action affords accurate control at all times. Fill to the exact level — no over-filling — no guessing. The valve can be locked in either an open or closed position. Automatically bleeds off before removal from tank connection. Simple and fool-proof in design — no complicated, tricky mechanisms or special adaptors required. Quickly disassembled for inspection and servicing without removal from hose — simply remove bottom nut. Light-weight and easy to handle.

Equip all of your hose lines with this efficient, low-cost safety filling valve. Fits all standard hose connections. Available in ¾" and 1" female pipe sizes.

SEND FOR PRICES TODAY.

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340 WEST AVENUE 26, LOS ANGELES 31, CALIFORNIA

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RALEIGH, NORTH CAROLINA	Continental Gas Equipment Co. P. O. Box 5846
SPRINGFIELD, OHIO	E. E. Schaaf Sel-Pac of Ohio 729 E. Main Street
PORTLAND, OREGON	Western Utilities Supply Co. 1905 No. Williams Avenue
SCRANTON, PENNSYLVANIA	Continental Gas Equipment Co. 901 Providence Road
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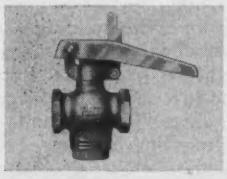
DALLAS, TEXAS	Frank Row Sel-Pac of Texas 202 Farrington Street
SEATTLE 4, WASHINGTON	Western Utilities 525 Ninth Avenue South
MILWAUKEE 2, WISCONSIN	Vincent Refrig. & Heating Supply Co. 1025 No. Water Street
STRATHROY, Ontario, CANADA	Arden Sutherland & Son, Ltd. Canaan Street
EDMONTON, Alberta, CANADA	Canadian Propane Ltd. P. O. Box 668

ADVERTISEMENT

Safety In New Filling Device

by GEORGE R. POSTLEWAIT
General Manager
SELWYN-PACIFIC COMPANY

Once in a long while in most any industry or business, a new idea or product is introduced which is so simple it is practically unbelievable, yet one which accomplishes a purpose or job better than many complicated and more expensive methods employed in the past. We feel we have run across just such an example of this in our new lever operated globe valve with an automatic bleed feature.



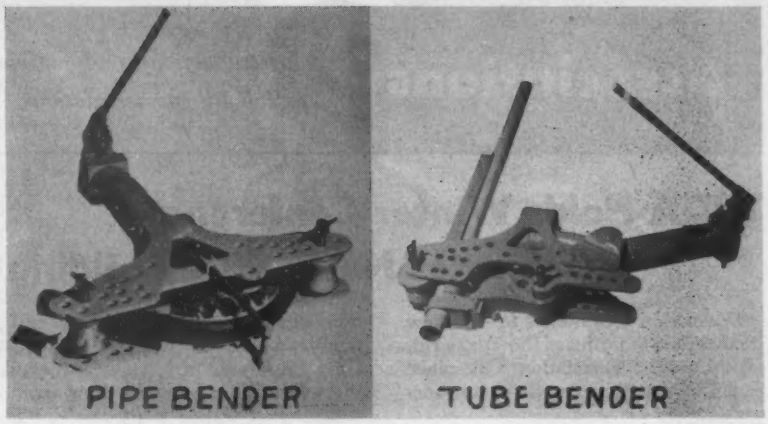
Perhaps one of the most hazardous operations in the handling and transfer of liquid LP-Gas comes at a point where the liquid from the storage tank is conveyed to the domestic tank, cylinder or tractor tank. A conventional hand wheel type globe valve has for many years been used on the hose end to control the passage of fuel. This has provided a dependable shut-off but it is slow, cumbersome and not too safe for a number of reasons.

First, after filling the tank with the old globe valve, the operator must then make 5 or 6 turns of the hand wheel in order to shut off the flow. Then, when breaking the connection, he must do so with considerable care so that the liquid entrained between the globe valve and the tank valve will not suddenly escape causing hand burns.

Secondly, should the fill valve on the tank hold open at the time the operator hurriedly removes the hose connection, a serious loss of liquid can occur before the fill valve reseats, whereas with our new lever operated safety valve you can "trigger" the flow causing rapid surges of fuel which help to reseat a sticking fill valve. Furthermore when filling with the new lever operated valve the instant surge of liquid tends to wash the fill valve seat clean of any dirt which would ordinarily cause it to stick open.

You will like the simplicity of the Sel-Pac valve. No complicated gadgets or special connecting spuds. Should it ever, after long usage, require inspection or service, this is simply done by removing the bottom nut and all parts are readily accessible without removing the valve from the hose. These features all add up in the interest of safety which is of vital concern to all of us.

SELWYN-PACIFIC COMPANY
340 West Avenue 26
Los Angeles 31, California



14. Pipe-Tube Bender

A portable hydraulic tool for bending both pipe and tubing is now made by Tal Bender Inc. The bender is equipped with a newly-developed frame which enables the dealer to bend pipe, rigid conduit, thinwall conduit, hard and soft copper, aluminum and steel and other tubing in 90° to 180° angles.

The combined function of this bender reduces the price considerably, according to the manufacturer.

Tal Bender Inc.

15. Vertical Pumps

To describe and illustrate two types of vertical, encased, close-coupled pumps for the handling of hydrocarbons and other products, Peerless Pump Division, Food Machinery and Chemical Corp., has just issued a bulletin titled "Hydro-Line Pumps."

In addition to explaining the importance of the wide application flexibility, space-saving qualities and excellent NPSH (net positive suction head) characteristics of encased, vertical, close-coupled pumps, the bulletin completely documents and illustrates the many construction features of both a process type vertical can pump and a transfer type vertical can pump and points out where each may be advantageously and profitably applied.

On the process type Hydro-Line pump all welding is API-ASME code, a requirement of pumps for application to many refinery processes and to high temperature, high pressure applications. Further, the process type pump has specially designed containers for either mechanical shaft seal or packing. Bottom of pump barrel is semi-elliptical in shape, with guide vanes to provide optimum liquid entrance conditions to bowl units. Discharge head and barrel can be provided with 300-psi suction and discharge flanges when higher suction pressure is encountered. Increased wall thickness adds to structural stability of both the pump discharge head and pump barrel in this type Hydro-Line.

Capacity range of the Hydro-Line pump is given at up to 3000 gpm and the head range is stated at up to 1000 ft. Drives can be standard vertical solid shaft electric motors or explosion-proof motors or steam turbine drive as required. Pumps are capable of handling liquid temperatures up to 400° F. They can be furnished in both single and multi-stage units.

Peerless Pump Division
Food Machinery & Chemical Corp.

16. Gas Heating

"What You Should Know About Gas Heating," has been published by the William Wallace Co.

The booklet discusses in non-technical language such questions as heat loss, the value of insulation, and what constitutes true heating comfort. It examines the important advantages of gas heating and reviews the commonly used types of central heating systems and individual room heaters. It stresses the importance of properly designed gas venting to match today's modern gas appliances.

William Wallace Co.

17. Plug Valve Catalog

The latest catalog on the ACF lubricated plug valves is now available. It covers a variety of services for many products, including L. P. gas.

A new feature and added improvement in these valves is the "teflon" gasket.

The catalog will be of interest to those who use such valves in refineries, gas plants and distribution systems.

ACF Industries Inc.

Associations

Current activities of national, regional and state liquefied petroleum gas associations.

TBDA Holds Winter Conference, Dedicates New Office Building

Dedication ceremonies for the new home-office building of the Texas Butane Dealers Association took place Sunday, Jan. 23, in Austin in conjunction with the mid-winter conference held Jan. 22. Association President Glen Cope and Mrs. Cope unveiled the name plaque on the new headquarters building, located at 1623 S. Lamar Blvd.

Dedication of the building marks the beginning of the second decade for the association. The building was designed by Architect James W. Crow to meet the particular needs of the group. It includes a reception area, offices, and directors' room, which is equipped with a large table and chairs. The *Butane News* office and a coffee bar are also included in the building.

The front of the building is a blend of conventional brick, Roman brick and redwood paneling. Fifty feet wide and 46 ft deep, it has two winter-summer air conditioning units, acoustical ceilings and fluorescent lighting throughout.

The association's fourth mid-winter conference, held at the Driskill hotel, opened with a breakfast and a discussion and evaluation of a customer's manual written by graduates of the management institute. The discussion was led by J. A. Farrar.

The manual, which is titled "Facts About the Miracle Fuel Butane-Propane," will be available in quantity to association members for distribution to customers. It has space on the front for the dealer's name and address.

The booklet includes 12 safety rules for using LPG, a discussion of some of the characteristics of butane and propane and the difference between the two, and instructions for the installation of LPG systems.

Speakers at the meeting included General Ike Ashburn, general mana-

Giant blow-up of the front cover of the new customer's manual is displayed at the recent mid-winter conference of the Texas Butane Dealers Association by J. A. Farrar, chairman of the committee which wrote the booklet. At right is Paul Bohmfalk of Beaumont, a committee member.

241 REASONS . . .

. . . Why you should attend the Annual Convention and Trade Show of the national

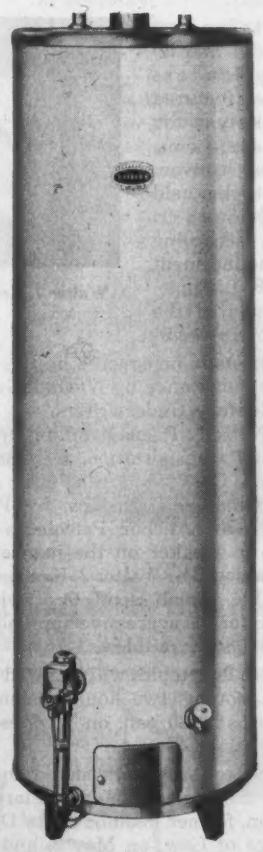
Liquefied Petroleum Gas Association

May 1, 2, 3 and 4 — Conrad Hilton Hotel — Chicago

1. *Information* at the marketers' section — from four top-flight speakers on such marketers' problems as insurance, sales, supplier relations and gas handling.
2. *Fun* — at the cocktail party, banquet and trade show.
3. *Profit* — from swapping ideas with other operators.
4. *Inspiration* on living in a stronger America from Dean Clarence Manion, nationally famous patriotic speaker.
5. *Relaxation* for yourself and your family (bring them, too) amid Chicago's countless recreation resources.
6. *Participation* in the business of your national LPGA. Plus . . . 235 booths of the newest in appliances, equipment and services arranged by LP-Gas industry suppliers waiting to greet you at the

national LPGA trade show

Twice the protection...



UTILITY'S NEW DUAL-LINED ARMOR-GLAS Automatic Gas Water Heaters...

Let us give you some cold facts about hot water – facts guaranteed to find a warm spot in your sales picture. You can sell Utility's dual-lined Armor-glas water heaters to the customer who wants the best – and make yourself the best profit margin you've ever seen. For this quality-engineered and quality-priced water heater practically sells itself. The two layers of tough Armor-glas – fused with the steel of the tank in a smooth perfect bond – assure extra protection against water's corrosive effects, make for trouble-free, service-free performance. For the greatest rust resistance and the least sales resistance suggest Utility's dual-lined Armor-glas water heaters. You'll have the happiest customers and the hottest sales record in town!

NOTE THESE EXTRA FEATURES: Large external flue and double reflector pan offer greater heating efficiency • Automatic Grayson Unitrol offers 100% electro-magnetic safety • Kem-Rod acts as anode for extra rust prevention and tank protection • Available in 30 and 40 gallon sizes

Dependable Utility water heaters can make friends for you on all your jobs – commercial and domestic. See your Utility water heater jobber or distributor or write for information on the full-model line.

a happier living family tree... all branches of

GAFFERS & SATTLER And OCCIDENTAL
Automatic Gas Ranges

UTILITY
Furnaces • Air Conditioners
Air Coolers • Water Heaters

UTILITY
TRADE MARK
AUTOMATIC GAS WATER HEATERS

UTILITY APPLIANCE CORP. 4851 S. Alameda St., Los Angeles 58, Calif.

ger of the Texas Good Roads Association, who analyzed the need for developing a highway system to keep pace with growing traffic demands in Texas; and Jim T. Barton, CPA of Austin, who discussed the new income tax laws.

Dr. A. Q. Sartain of SMU talked about the value of human relations in business, answering the question "How are you handling a buying public which is getting harder and harder to sell?" Angus McDonald, Texas insurance commission actuary, and three members of the staff discussed insurance costs and suggested a few solutions to insurance problems. A question and answer session followed Mr. McDonald's talk.

The meeting closed with a friendship hour before the final banquet and dance in the ballroom of the Driskill hotel.

Association President Glen Cope and Mrs. Cope unveil plaque of the Texas Butane Dealers Association's new headquarters building in Austin.

Industry Leaders To Speak At National Convention

Walter J. Kraus

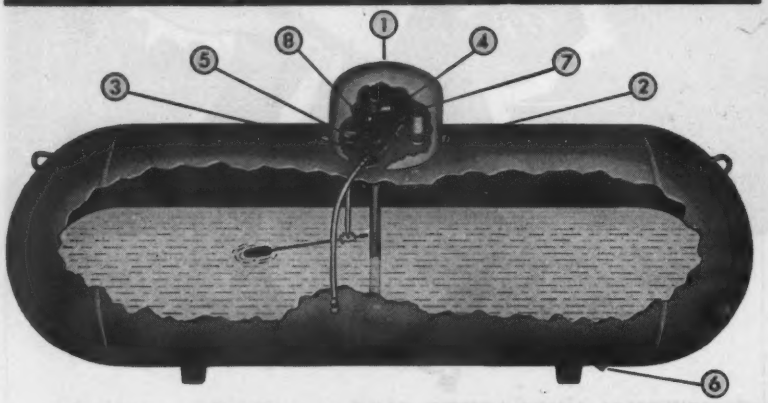
Outstanding dealers and industry leaders will be featured speakers at the industry's national convention, to be held in Chicago in May, according to announcement from R. L. Epple, chairman of the marketers' section.

Subjects to be covered by this section are insurance, by Wendell Groth, Mid-Century Underwriters Inc., Lincoln, Neb.; L. P. gas handling, transfer, and transportation, by Charles Corken, Corken's Inc., Tulsa; supplier-dealer relationships, by P. E. Gray, with Anchor Petroleum Co. Wind-up speaker on the marketers' program will be Walter J. Kraus, Bay Heat Inc., North Bend, Ore., widely known for his aggressive approach to industry sales problems.

These four topics will be fitted into a fast-moving, two hour session beginning at 2:30 p.m. on Wednesday, May 4.

Luncheon speakers slated to address the convention are Clarence Manion, former dean of Notre Dame College of Law, on May 2, and Edmund H. Harding, nationally known humorist, on May 4.

Economy LP-GAS SYSTEMS



Some of the many Features and Qualities of Economy Systems

1. ONE PIECE STREAMLINE DOME!
2. STURDY DETACHABLE HINGE!
3. LARGE ORFICE REGULATOR!
4. LIQUID TAKE-OFF, BUILT-IN EXCESS FLOW!
5. FLOAT GAUGE, REPLACEABLE SNAP-ON DIAL!
6. BOTTOM PLUG FOR LIQUID, OR CLEAN OUT!
7. LIQUID LEVEL OUTAGE GAUGE!
8. PRESSURE GAUGE OUTLET!

SEE US BEFORE YOU BUY!

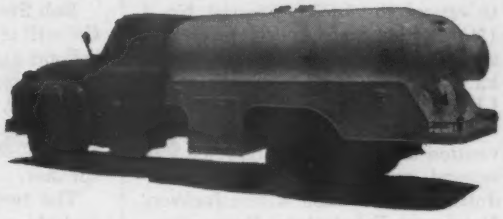
Economy Truck Tanks, Transports, Skid Tanks, Anhydrous Ammonia Tanks and all types of Steel Fabrications.

DALLAS TANK COMPANY, INC.
201-5 W. Commerce Street • P. O. Box 5387
DALLAS, TEXAS

AMERICAN *Better Bilt* DELIVERY TRUCKS

LARGER PAY LOADS...LESS OPERATING COSTS... Mean Greater Profits for You!

American engineered, perfectly balanced delivery truck units bring you — Lighter Weights — Easier Handling — More Gas Delivery — Safer Equipment.



B31—A very popular model with meter and storage boxes mounted on each side of truck and streamlined into the skirting. Motor fuel tank mounted in rear. Fittings are enclosed under a streamlined rear dome. Meter, if desired, is mounted in box on driver's side or may be mounted at the front of catwalk. Main valves are controlled from box on driver's side. Hose may be carried either in box or on catwalk. Hose reels may be mounted on all models if desired.

B21—America's most popular 1954 safety designed delivery truck. Motor fuel tank in rear. Meter may be installed in rear protected by small canopy or may be enclosed without destroying usefulness of design. Clutch and power take off controls are in rear. Two storage boxes are located in the rear and there is plenty of room for the hose. This unit was designed especially for safety of the driver and has been proven in service.

N17—A completely enclosed extra light weight compact unit designed with all controls, motor fuel tank, meter, hose reel, power take off and clutch controls all incorporated in rear streamlined cabinet maintaining perfect balance and symmetry of line. Rotary gauges are 1" in size, well protected.

SB3 Model — The American single-barrel delivery unit in sizes from 1200 to 1600 water gallons incorporates all the many desirable features of the twin barrel trucks, including two storage compartments mounted on the rear, motor fuel tank on the off driver's side, plenty of room for hose and meter, and controls may be mounted in the rear if desired.

Rear view of N17 showing the desirable features of this popular model.

MEMBER LIQUEFIED PETROLEUM GAS ASSOCIATION LPGA

Delivery trucks made in sizes from 1250 to 2000 W.G.

ALL MAKES OF NEW TRUCK CHASSIS AVAILABLE AT LOWEST PRICES

FINANCING AVAILABLE Write for Information

American Tank & Mfg. Co.

PHONE RIverside 9183
P.O. BOX 5525

Better Bilt

2136 WEST COMMERCE, DALLAS, TEXAS

Also available at:

Jackson, Mississippi, P. O. Box 2563, Hi-way 80 East, Phone 3-8726 — Littlefield, Texas, 306 N. Ripley, P.O. Box 341, Phone 228 M

Alaskan Members To Attend Northwest District Meet

Several association and industry members from Alaska are expected to attend the LPGA District No. 1 (Northwest) convention on April 1-2 at the Olympic hotel in Seattle. Alaska was recently made a part of the LPGA northwest district.

Although the program for the convention has not been completed yet, several speakers have been scheduled. These include Wilton Jackson, Northwest Fabricators, Nyssa, Ore., who will discuss "The Easy Way to Build a Summer Load"; and Talmage Lovelady, president of Pure Gas Service Co., Worland, Wyo., who will discuss "The Place of Metered L. P. gas Service."

Bob Steele from the Portland Gas Co. will tell convention goers how to sell gas appliances to people who are not prospects. Walter Kraus of Bay Heat Inc., North Bend, Ore., is also included on the speakers' rostrum. Rex Allison will appear as keynote speaker.

The two-day convention will also include a friendship hour, banquet and floor show.

The convention program is under the direction of C. M. Ambrose Jr. of Liquefied Gas Corp., Seattle.

Mississippi Association Plans April Convention

Plans are well underway for the April 24-26 meeting of the Mississippi LP-Gas Dealers Association which, the group promises, will be "bigger and better" than last year's meet. This year's annual convention will be held at the Edgewater Gulf hotel in Edgewater Park, which is between Gulfport and Biloxi.

The board of directors of the Mississippi association met recently in Jackson to outline tentative plans for the meeting and to line up speakers and plan entertainment.

GAMA Changes Date Of 1955 Convention

Gas Appliance Manufacturers Association has changed the date of its 1955 annual convention. Formerly scheduled for May in Los Angeles, the convention will now be held at the El Mirador hotel in Palm Springs, Calif., Oct. 12-14.

The October dates were selected to replace those in May so that GAMA members might attend both the GAMA meeting and the American Gas Association convention during a single trip to the West coast. AGA will meet Oct. 17-19 in Los Angeles.

Goodman Elected President At Michigan LPGA Meet

Clarence Goodman of Goodman Bottled Gas Co., Gladstone, was elected president of the Michigan LPGA at the Jan. 24-25 meeting held at the Pantlind hotel in Grand Rapids.

Other officers elected include M. R. Frank, Adrian Appliance & L. P. gas Co., Adrian, vice president; and J. O. Gower, Michigan Bottled Gas Co., Eureka, secretary-treasurer.

New directors of the association include Vern Becker, Becker Bottled Gas Co., Port Huron; Edward Habermehl, Fuelgas Co., Tawas City; and John Stevenson, Protane Corp., Cassapolis.

Half of the first day of the convention was devoted to a service school. L. P. gas flame characteristics and adjustments, automatic controls, regulators, piping and venting were among the subjects covered by W. E. Bowman, Chris Neely, Andy Tirpak, John Gregg and Ted Fraser. All service men attending the school were given a certificate which indicated

VIKING "200" the BIG NEW LINE of LP-Gas pumps

Fig. 200 Viking LP-Gas Pump

Viking Series 200 is the big new seller of LP-Gas pumps

FEATURING —
Non-lubricating Bearings.
O-Ring Gaskets.
Positive Shaft Closure.
Dry Liquid Type Mechanical Seal.
New, Efficient Safety Relief Valve.
Available in 3 Stationary Mounting Arrangements and Truck Mounting Type.

Sizes 8, 17, 28, 38, 70, 90 G.P.M.

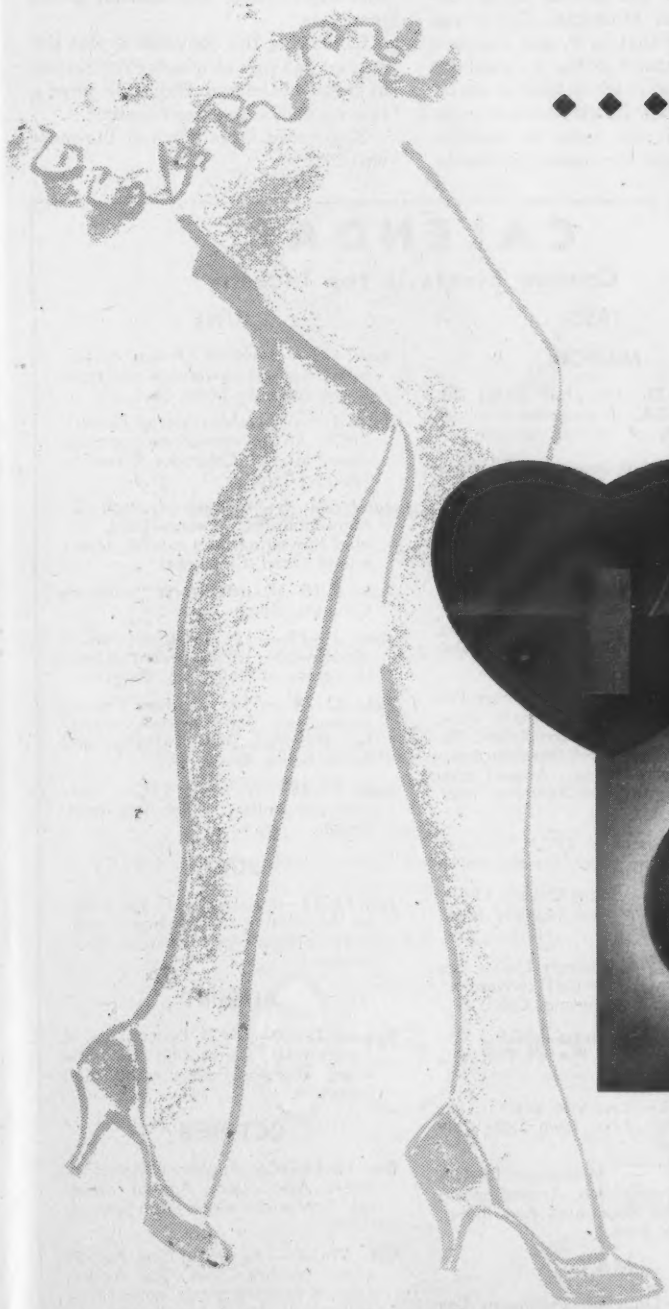
VIKING AN HONORED NAME IN PUMPING

Send today for complete information and prices. Ask for CATALOG SECTION H-B.

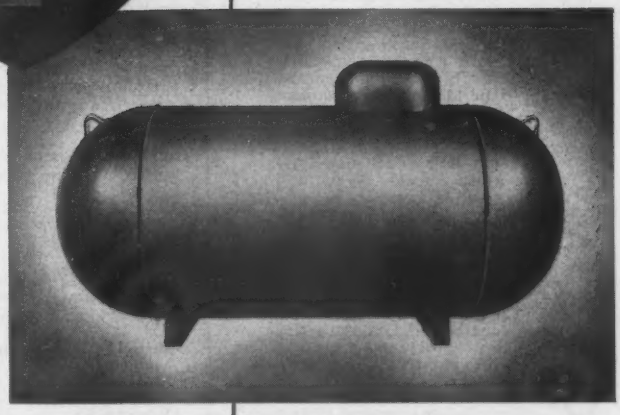
See our Catalog in the LPGI CATALOG

VIKING PUMP COMPANY Cedar Falls, Iowa

...Legs



The legs on Delta Systems will particularly please you! Instead of the common type leg, which places all the stress on small areas of the foundation, all legs on Delta Systems are specifically designed to properly and evenly distribute the weight of the tank on the foundation. This broad supporting base is of heavy steel construction.



Ask the Delta Man!

DELTA TANK MANUFACTURING CO., INC.

BATON ROUGE, LA. · MACON, GA. · BEARDSTOWN, ILL.

EXPORT OFFICE: INTERNATIONAL TRADE MART, NEW ORLEANS, LA.

MANUFACTURERS OF PRESSURE VESSELS AND OIL FIELD EQUIPMENT

Ever see a Weed make Money?

Well...

they can . . . and will . . . for you, Mr. LP-Gas Dealer, if you give them a chance.

HERE ARE THREE WAYS WEEDS CAN MAKE MONEY FOR YOU:

(1) By obtaining a dealership for Agri-Quip LP-Gas Weed Burners . . . the leaders in the field. . . ..

(2) By selling LP-Gas to the owners of Agri-Quip LP-Gas Burners . . . at the time when your gas sales are at the lowest point, Spring, Summer and Fall. And here is something worth considering, taking the "dip" out of your sales chart will make your year 'round, overall operation more profitable.

(3) By operating Agri-Quip Burners on a "custom" burning basis.

Each year, uncontrolled weeds reduce farm income by millions of dollars. They clog irrigation ditches wasting precious water. They lay waste to thousands of acres of productive land, robbing the soil of valuable minerals and plant nutrients. Uncontrolled weeds are an expense, a liability to the profitable operation of any farm and demoralizing to the farm operator. However, the problem of uncontrolled weeds can be licked, and the answer is burning, or flaming. Today, Agri-Quip LP-Gas Weed Burners make economical and effective weed control available to every farmer . . . and this, Mr. LP-Gas Dealer, is where you come into the picture.

If you are interested, in seeing how weeds can make money for you, write . . .

AGRICULTURAL EQUIPMENT Corp.
Box 200 A
La Junta, Colorado

that they had attended the classes and were better qualified for their jobs.

Thirty-six L. P. gas distributors at a special breakfast discussed the subject of railroad rates for propane shipped from the Southwest to various points in Michigan. The group was advised that L. P. gas shippers were determined to file a complaint against the railroads in hope of securing a lower rate which would be competitive with the rates to Indiana, Wisconsin and the upper peninsula.

A promotion film, "Dione Lucas Cooks In Color," was shown at the meeting. The film will be available to all members of the association for use in promoting the sale of LPG and will be shown at sales meetings, store meetings, school and church group meetings.

Climaxing the convention was the annual banquet at which Fred Kaiser of Detroit-Michigan Stove Co. gave a talk on trends in salesmanship.

Registered attendance at the meet was 265.

CALENDAR

Coming Events in the Industry

1955

MARCH

March 21-23—Mountain States District, LPGA. Management school, University of Denver, Denver.

March 24—New Jersey LP-Gas Association. Annual convention, Ritz Carlton hotel, Atlantic City.

March 28-29—Iowa LPGA. Convention, Savery hotel, Des Moines.

APRIL

April 1-2 — Northwestern District, LPGA. Convention, Olympic hotel, Seattle.

April 4-6—Southeastern District LP-GA. Convention and trade show, Boca Raton hotel, Boca Raton, Fla.

April 13-15—Natural Gasoline Association of America. Annual convention, Baker and Adolphus hotel, Dallas.

April 14—Wisconsin LPGA. Convention, Whiting hotel, Stevens Point.

April 14-15 — South Dakota LPGA. Convention, Marvin Hughitt hotel, Huron.

April 17-19 — Western Liquid Gas Association. Annual convention, Hacienda hotel, Frseno, Calif.

April 18-19—Montana LPGA. Annual convention, Hotel Finlen, Butte.

April 20-22—Iowa-Mid-West L. P. gas service school. Iowa State College, Ames.

April 24-26 — Mississippi LP-Gas Dealers Association. Annual spring convention, Edgewater Park hotel, Edgewater Park.

MAY

May 1-4—Liquefied Petroleum Gas Association. Annual convention and trade show, Conrad Hilton hotel, Chicago.

May 16-17 — Utah LPGA. Annual convention and trade show, Newhouse hotel, Salt Lake City.

May 16-20—National Fire Protection Association. Meeting, Netherland Plaza, Cincinnati.

JUNE

June 1-3 — Missouri LP-Gas Association. Annual convention and trade show, Jefferson hotel, St. Louis.

June 5-7—Mountain States District, LPGA. Annual convention and trade show, Hotel Colorado, Glenwood Springs, Colo.

June 6-8 — Institute of Appliance Manufacturers. Twenty-third annual convention and exhibit, Netherland Plaza, Cincinnati.

June 6-15—Fourth World Petroleum Congress, Rome, Italy.

June 19-22 — LPGA District No. 2 (Southwest). Management school, University of California, Berkeley.

June 22-24 — Texas Butane Dealers Association. Tenth annual convention and trade show, Adolphus and Baker hotels, Dallas.

June 27-28—Wyoming LPGA. Annual convention, Hotel Townsend, Casper.

JULY

July 11-13—Mississippi LP-Gas Dealers Association. Management seminar, University of Mississippi, University.

AUGUST

August 28-30—LPGA District No. 2 (Southwest). Convention and trade show, Sheraton-Palace hotel, San Francisco.

OCTOBER

Oct. 12-14—Gas Appliance Manufacturers Association. Annual meeting, El Mirador hotel, Palm Springs, Calif.

Oct. 17-19 — American Gas Association - Pacific Coast Gas Association. Combined annual convention, Ambassador hotel, Los Angeles.

Oct. 18-22—National Safety Council. Forty-third national safety congress and exposition, Chicago.

All associations are invited to send in dates of their forthcoming meetings for this calendar.

V-3000
Poppet-Type
Low Pressure
Gas Regulator
Two ways to put the sure in pressure regulation
whenever she turns on a gas appliance
She may not know what a pressure regulator is. But you know it guarantees what she wants—dependable performance. And that is particularly true when one of the wide range of General Controls V-300 regulators is on the job with maximum flow, positive regulation and good lock-up characteristic—for ideal, straight-line pressure control. With General Controls—you can be sure she will be satisfied!
V-300E
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25 YEARS
SILVER JUBILEE YEAR
GENERAL CONTROLS
PLANTS: GLENDALE, CAL. • BURBANK, CAL. • SKOKIE, ILL. • 38 BRANCH OFFICES SERVING THE NATION
America's Finest Automatic Controls
MANUFACTURERS OF AUTOMATIC CONTROLS FOR THE HOME, INDUSTRY, AND THE MILITARY
General Controls
Gas Pressure
REGULATORS

The Trade

News of personnel of manufacturers, contractors, and suppliers to the LPG industry.

General Controls Co. Promotes Hess, Walters

A. E. Hess, who joined General Controls Co. of Glendale, Calif., as a sales engineer in 1944, has been appointed southwest regional manager with headquarters in Dallas. Mr. Hess opened the company's Houston branch in 1945 and served there as branch manager before being transferred to Dallas.

W. K. Walters has been named regional manager for General Controls' branch office in Houston.

A. E. Hess

W. K. Walters

SQS

SERVICE • QUALITY • SATISFACTION

A Complete Line of Single and Twin Barrel Propane Truck Tanks

TWIN BARREL

Very popular model. Can furnish in any capacity you desire. Custom made, to your specifications. A unit to be proud of.

TWIN BARREL

TRANSPORTS

Can furnish in single or twin barrel type. Unit constructed so load can easily be shifted to meet different type tractors. Payload makes you money, this is our specialty.

TRANSPORT

SINGLE BARREL

For one fuel operation, the 1200 single meets all requirements, can furnish any capacity you desire. The leader in its own field.

SINGLE BARREL

Send Us Your Specifications and We Will Submit Quotations.

•

Complete Modern Shop Facilities for Mounting and Testing All Pumping, Metering and Propane Handling Equipment.

"EVERYTHING IN LPG AND ANHYDROUS AMMONIA"

The Pasley Mfg. & Dist. Co.

501 East 11th Street • Kansas City, Mo. • Tel. Victor 2369

Preway Announces Promotion of Anderson and Grill

Preway Inc. has announced the promotion of H. T. Anderson to sales manager and John Grill to sales promotion manager.

Mr. Anderson has been associated with Preway since 1950 in the sales department and previously held the position of product sales manager.

Mr. Grill, who joined Preway in 1954, was also a product sales manager.

Derward Smith To Assist President of Delta Tank

Derward Smith, former Higgins Inc. executive, has been appointed to the newly created post of special assistant to the president of Delta Tank Manufacturing Co. Inc.

Mr. Smith, former vice president and a director of the National Association of Cost Accountants and a member of the Controllers Institute of America, served as controller of Higgins Inc. before joining the staff of Delta Tank in Baton Rouge.

Six Tappan Stove Members Promoted to New Positions

Six members of Tappan Stove Co.'s engineering department have been promoted to new positions with the firm.

R. M. Lamb, formerly vice president in charge of engineering, will take over new duties as vice president in charge of inter-plant coordination of Tappan plants in Mansfield, Ohio; Murray, Ky.; Los Angeles; and Montreal, Canada.

Truman B. Clark, formerly assistant to the vice president in charge of

For
Maximum Safety...
Economical Operation...
Rugged Service...

CHARLOTTE *Engineered* Truck Tanks for LP Gas

GUARANTEED

to provide the utmost in safety and designed for highest operating efficiency.

CERTIFIED

to meet exacting requirements of ASME Code and ICC Specification MC-330. Charlotte Truck Tanks are load-balanced to the chassis.

Charlotte Engineered Truck Tanks serve you better!

- Sparkpro... wiring.
- Highest quality excess flow, check and hand valves.
- And 29 additional quality construction features assure you of maximum safety, economical operation and years of dependable service.

Order your Charlotte Truck Tanks NOW to fit your present truck or a new chassis of your choice . . . available in 1248 to 2400 gallon water capacities.

CHARLOTTE TANK CORPORATION
Phone EDison 2-2188 · P. O. Box 8037
Charlotte 8 North Carolina

Write today for full information and prices on our line of Engineered Truck Tanks, D-Hydrated LP Gas Systems, ASME Cylinders, Duo-Tested Anhydrous Ammonia Tanks.

How to step up service and win new customers

The Answer:

RCA 2-WAY RADIO

"Our slogan is '15 minute service when you need it'," says William H. Sullivan, President and General Manager, Shore Gas and Oil Co., one of the largest independent distributors in New Jersey. "With radio it is often possible to dispatch a truck while the customer is still on the phone!" No wonder business is booming for this firm.

Their RCA 2-Way Radio is more than paying for itself, according to the record. Based on their expenditures for equipment and service, plus 10-year depreciation, radio costs them 70 cents a day per truck. Figuring three dollars an hour running time for a truck and saving an average of one hour each day per truck, radio is paying generous dividends.

Attract business *your* way by installing RCA world-famous 2-Way Radio. Accident-proof 16-gauge steel case, housing the transmitter-receiver, withstands toughest shocks and jolts. Quality parts assure top performance, proof against gruelling weather conditions, whether intense heat or intense cold. Operating costs are low, servicing easy.

The RCA Service Company is at your beck and call for installation and service wherever you are. Why not mail the coupon today? You'll incur no obligation.

For the Best in 2-Way, Say "RCA"

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NAME_____

TITLE_____ COMPANY_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

engineering, has been named director of engineering. In his new capacity, Mr. Clark will direct the company's complete engineering program.

New chief development engineer is Robert G. Sheidler. He joined the company in 1941 in the export department.

Charles M. Mayer will take over duties as chief research engineer and will manage the company's long range research programs. Mr. Mayer began working part time for the Tappan Stove Co. in 1922.

New supervisor of research and testing is Richard L. Perl, who joined the company in 1948 as a draftsman.

Robert B. Adamson, formerly project engineer, has been appointed chief of production engineering.

S & L Appoints Beede New Chief Engineer

Steve Beede

Appointment of Steve Beede as chief engineer has just been made by Charles F. Schoepflin, president of S & L Manufacturing Co., Gardena, Calif.

In his position as chief engineer, Mr. Beede will continue to work on new equipment and at the same time will direct all engineering activities of the company. He brings to S & L a wide background of experience in both the L. P. gas and anhydrous ammonia fields. For a number of years he has specialized in the development of valves and related fittings for these two industries.

Servel Announces Appointments For Two Staff Positions

Promotions to fill two top-level staff positions at Servel Inc., Evansville, Ind., are announced.

Allen E. Apple, formerly industrial relations manager, becomes manager of employe relations, and Jack Hewson, formerly publicity manager, becomes director of public relations.

Mr. Apple joined Servel in 1947 as labor relations manager, and in 1951 was promoted to manager of industrial relations. For the past year he has been in charge of all departments of the company's personnel division.

Mr. Hewson came to Servel in 1946 as assistant advertising and sales promotion manager, and was made publicity manager in 1950.

James F. Donnelly, who has been vice president in charge of sales for Servel since 1952, has been named to

"...that stand-by plant you put in for us is frozen up and we have to shut down our operation!"

Solve those emergencies before they happen with a MITCHELL VAPORIZER on every important installation.

LET MITCHELL HELP YOU BUILD A REPUTATION FOR DEPENDABILITY WITH

1. A steady supply of gas
2. Uniform pressure
3. Constant heating value
4. No freeze-ups

Minimum Size Storage Required

MITCHELL Vaporizers eliminate the need for oversize storage tanks to meet temporary overload demands . . . hence make possible more compact systems. They are designed for use with all heating, drying or stand-by applications requiring from two to several hundred gallons per hour. (For the larger demands, MITCHELL Vaporizers may be manifolded together.)

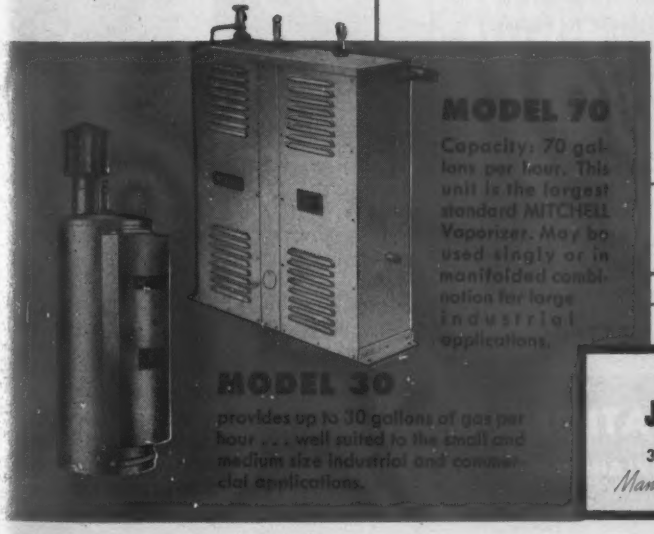
Automatic Selective Control

MITCHELL Patented "Automatic Selective Control" automatically controls the rate of gas evaporation in storage tank to equal the rate of usage. It permits vaporizer to supply either generated gas, or storage gas . . . or both at the same time. Simple, positive safety devices (providing overflow and pilot burner shut-off protection) make MITCHELL units safe and reliable.

Simple Installation

Installation of MITCHELL Vaporizers is simple and easy; and once properly installed, they will give years of constant, trouble-free gas service. All MITCHELL units have been tested and listed under Underwriters' Laboratories' requirements.

UL Listed by Underwriters' Laboratories



MODEL 70

Capacity: 70 gallons per hour. This unit is the largest standard MITCHELL Vaporizer. May be used singly or in manifolded combination for large industrial applications.

MODEL 30

provides up to 30 gallons of gas per hour . . . well suited to the small and medium size industrial and commercial applications.

SPECIFICATIONS

Model No.	Ht. (in.)	Dia. or Width (in.)	Depth (in.)	Shpt. Wt. (lbs.)	Rated Input (Btu./hr.)	Wkg. Pres. (psi.)	Pilot Burner (Btu./hr.)	Rated Cap. (gals./hr.)
30	39½	13¼	....	125	30,000	250	1100	30.0
70	39	32	10	460	75,000	250	1100	70.0

Contact your nearest distributor or write direct to:

JOHN E. MITCHELL COMPANY

3800 COMMERCE STREET • DALLAS, TEXAS

Manufacturers of Fine Machinery for More Than Half a Century

the newly created position of vice president in charge of trade and industry relations. In his new job he will be responsible for developing and maintaining the company's relations with trade associations and other industry groups.

Mr. Donnelly is now a member of the board of directors of AGA, and is a member of the utility association's gas refrigeration committee, and of the managing committee of the residential gas section. Previously he was a member of AGA's advertising copy committee and water heater committee.

John H. Wall, an Evansville industrial executive since 1931, has been appointed to a newly created key position at Servel. He was named general manager of Servel's new self-contained home appliance division, and was elected a vice president. He also became a member of the firm's executive committee.

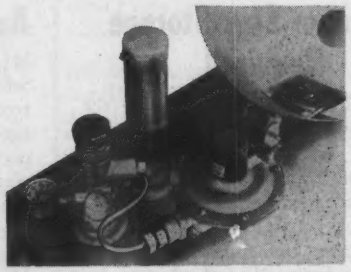
Mr. Wall's appointment marks the start of a new Servel organization plan calling for five autonomous operating divisions, each headed by its own vice president and general manager.

As chief of the home appliance division, Mr. Wall will be accountable for all phases of procurement, manufacturing, plant and general maintenance, warehousing, shipping, marketing, distribution, customer service and operating results for Servel's appliance products.

The other four self-contained operating divisions at Servel, in addition to the home appliance division, will be the defense division, the air conditioning division, the contract division, and the international division. These will be served by a central staff division devoted to research and product development.

LOOKING FOR A BETTER LPG SYSTEM?

It's FLINT For Quality Construction



It's FLINT For Quality Control Fittings

The relative merits of any LPG system are determined by two factors: construction quality and fittings. FLINT, long the leader in highest quality steel tank construction, now offers the finest in fittings, too. The new FLINT control fittings are designed for greater convenience in installing and filling; greater dependability in use; easier replacement. Protected by the heavy gauge steel dome shield and mounted on FLINT's easy-handling tank, these fittings make FLINT LPG systems an unequalled buy — Easier for you to sell.

Tanks are constructed in accordance with ASME code for 250 lbs. psi working pressure, and tested to 375 lbs. psi. Meet all state requirements. Six sizes, from 120 to 1,000 gallons. Also available in 6,000, 8,000, 10,000, 12,000, 18,000 and 30,000 gallons for bulk storage.

BUILT BETTER . . . TO SELL BETTER

FLINT STEEL CORPORATION

MEMPHIS, TENNESSEE ● TULSA, OKLAHOMA

American Liquid Gas Appoints Vice Presidents

Robert Barnes

The appointment of three key executives to vice president positions has been announced by American Liquid Gas Corp.

Robert E. Barnes has been promoted from his position of manager of carburetion sales to vice president of the carburetion division.

Lester L. Luxon, technical editor of BUTANE-PROPANE *News*, who has been manager of the unit construction department, has been appointed vice president of the gas plant division.

Lester Luxon

Roland Usher

Roland Usher, who has been in charge of fuel sales for Algas Fuel Service Inc., a subsidiary of American Liquid Gas Corp., is now vice president of this operation of the company.

Brunner Manufacturing Appoints P. A. Hunker, W. C. Roberts

Appointments at Brunner Manufacturing Co. include that of Paul A. Hunker to the newly created position of sales manager of refrigeration and Wallace C. Roberts as advertising and sales promotion manager.

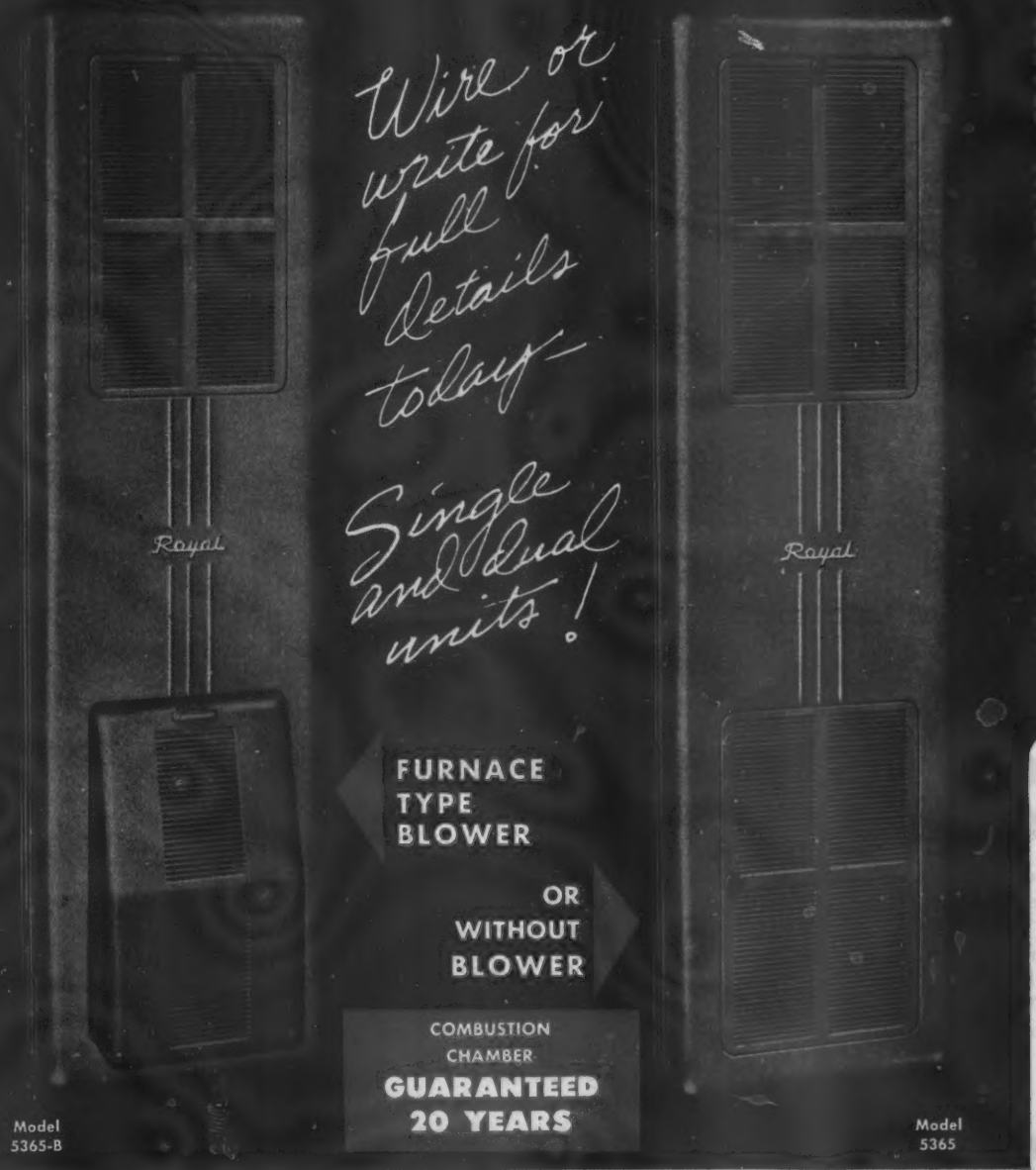
Mr. Hunker's immediate activity

AGA Approved UNDER 1954 REQUIREMENTS

8 NEW WALL HEATERS

ROYAL

RECESSED WALL HEATERS ... GAS FIRED!



A.I.A. File 30-C-44

Quality Since 1891

CHATTANOOGA ROYAL COMPANY, Chattanooga, Tenn.

Manufacturers of ROYAL GAS HEATERS and ROYAL CHEF BARBECUE GRILLS

will be supplementing the activities of the district sales managers in the introduction of the "Brunner-Metic" line.

Mr. Roberts was formerly advertising manager and assistant sales manager of American Emblem Co. of New Hartford, N. Y.

Charles M. Heathman, former district sales manager of Servel Inc., has joined Brunner. Mr. Heathman will work under the general direction of the firm's Chicago office and its district sales manager, T. Jack Lyon. His territory will include Chicago and the adjacent area.

Four Take New Positions At Pyrofax Gas Corp.

L. A. Iversen has become assistant sales manager at Pyrofax Gas Corp., a unit of Union Carbide & Carbon Corp., New York. Mr. Iversen will be responsible for industrial sales activities.

Wray D. Bentley has become service manager for the company. He joined Linde Air Products in Buffalo, N. Y., in 1925 and since has served in other divisions of the corporation.

William Kemp, field manager for the Central division, has become special representative of the company. He will coordinate his activities in the industrial sales field with Mr. Iversen and will supervise sales in the four western divisions.

Succeeding Mr. Kemp as Central division field manager is Bradley Price, a member of the company for over 20 years.

New members of the Pyrofax organization include Richard E. Gottenborg, field manager in the central and north Georgia sales district of the South division; Eugene P. Hart, district field manager in the Central division; and Joseph M. Dowd, assistant to the distribution manager in the New York office.

Gruer, Trueblood, Pierce Take New Positions at Magic Chef

Magic Chef Inc. has announced the appointment of A. W. Gruer Jr., to the new position of assistant to the president. He will assume his post in addition to his current duties as market research manager.

Mr. Gruer has been active in industry marketing circles. He is currently chairman of the Liquefied Petroleum Gas Association marketing research committee and is vice president of the market research committee of the Gas Appliance Manufacturers Association. A member of the board of directors of LPGA, Mr. Gruer has also been active in the Institute of Appliance Manufacturers.

A. W. Gruer Jr.

W. T. Trueblood

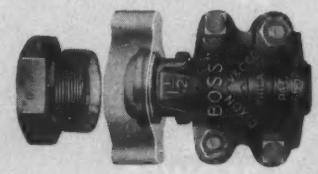
Magic Chef has also announced the appointment of W. T. Trueblood to the newly created position of merchandising manager, gas range division.

Mr. Trueblood was formerly sales promotion manager from 1949 to 1952. In 1952 he was made director of advertising and promotion, a position which he has held until the present time.

A. R. Pierce, product manager of the heater division, has been appointed a special factory representative to handle national space heater accounts, which is a newly created position.

J. J. Edwards has been appointed merchandising manager, heater division.

"G J-BOSS"
GROUND JOINT FEMALE COUPLINGS—STYLE X-34



Built to assure maximum safety and efficiency on all L-P Gas and other hose connections. Ground-joint union between stem and spud provides a washerless, thoroughly leakproof seal. Super-strong "Boss" Offset and Interlocking Clamps exert powerful full-circumference grip on the hose. All parts are steel or malleable iron, completely rustproofed. Sizes ¼" 6", inclusive. Also available in washer type, and with companion male couplings.

Stocked by Manufacturers and Distributors of Industrial Rubber Products

DIXON Valve & Coupling Co.
GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO
BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING CO., LTD., TORONTO
ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC., QUARRYVILLE, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

YOU DESIGNED THEM!

The design of TRAGESER LP-Gas Cylinders is based on a continuing survey of the requirements of LP-gas dealers.

Want to check the specs?

High-tensile alloy steel and brazed joints assure maximum resistance to denting and corrosion . . . keep your cylinder investment low. Light weight reduces hauling costs . . . longitudinal seam handles easily over the tailboard. The patented Lifemark Data Plate is made of copper . . . permanent, non-corroding, *always* easy to read. A red oxide ground coat is a perfect base for painting. Skirts are strong and rigidly secured. Trageser Cylinders are supplied with or without valves. Available in sizes of 20 to 420 pounds.

Send for: (1) a price-list and catalog with complete specifications of the 20- to 420-pound Trageser LP-Gas Cylinders, (2) quotations on Trageser's ASME Storage Tanks, 250 to 500 gallons, and (3) price-list and catalog of Trageser's famous "Copper Core" automatic gas water heater.

This is the fast-selling Trageser "Copper Core" automatic gas water heater. Tank of pure copper with 10-year full replacement guaranty. Send for full information.

TANKS by TRAGESER

TRAGESER COPPER WORKS, INC., 5000 Grand Ave., Maspeth 78, New York • Phone EVergreen 6-4000

John M. Bayer has been appointed manager of the newly-created St. Louis sales division. Mr. Bayer was previously manager of the St. Louis district sales office of the company.

G. B. McClellan To Head Wallace Sales Promotion

George B. McClellan has been appointed sales promotion manager to head William Wallace Co.'s newly-formed sales promotion department.

Mr. McClellan, formerly Western division manager with headquarters in San Francisco and responsibility for the 11 western states, has been employed by William Wallace Co. for the past eight years. He will now work out of the company's main office in Belmont, Calif.

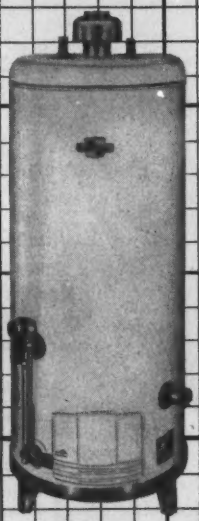
Gerald L. Davies has been assigned to the sales staff of the Metalbestos division. Mr. Davies' territory will include west Texas, New Mexico and Arizona, with headquarters in Santa Fe, N. M.

George J. Torassa has been appointed to the New York sales staff of Metalbestos division. Mr. Torassa will operate from the company's New York offices.

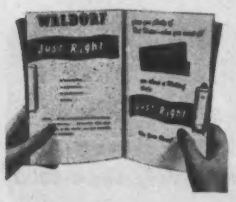
Mr. Torassa has been employed in the Belmont headquarters sales office for the past two years. Prior to this, he worked in the field of industrial rubber products.

SALES CHART of a WALDORF DEALER

So much beauty . . . so much ability to do its specific job promptly and completely . . . so little need for service after the sale—that's why Waldorf dealers are setting new sales records.



WALDORF Glass-Lined Water Heaters: Just Right for LP Gas!



WALDORF-HEATER COMPANY, Dept. 3
1421 Chestnut St., Philadelphia 2, Pa.
Please send me full information about Waldorf Water Heaters and available consumer literature.

NAME.....

STREET.....

CITY.....ZONE.....STATE.....

O'Sullivan Appointed Norge Eastern Sales Manager

F. D. O'Sullivan

Appointment of Frank D. O'Sullivan as eastern division sales manager of Norge, a subsidiary of Borg-Warner Corp., Chicago, is announced.

Formerly a district representative, Mr. O'Sullivan will be responsible for sales of Norge appliances in New England, New York, New Jersey, Delaware, Pennsylvania, Maryland, and the District of Columbia. He will headquarter in Philadelphia and supervise and coordinate the activity of six Norge regional managers.

Laurence Cooper New President Of Hall-Scott Motors Co.

Hall-Scott Motors Co., which recently has become independent after being operated as a division of AFC-Brill Motors Co. of Philadelphia, has named a new president.

Laurence H. Cooper became president Jan. 1, when he resigned as general manager of the Government Products division of Rheem Manufacturing Co., according to F. William Harder, chairman of Hall-Scott.

Hall-Scott, whose principal plant is in Berkeley, Calif., with branches in Los Angeles and Richmond, Calif., manufactures gasoline and butane engines for military, truck, bus, industrial and marine use.

Pittsburgh Division Officials Promoted by Rockwell

Norman Rowand

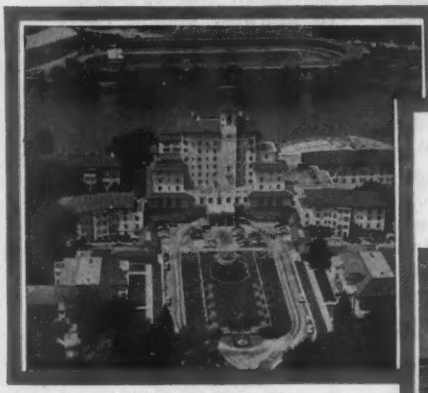
Three Pittsburgh officials of Rockwell Manufacturing Co. have been promoted to new management posts.

Norman W. Rowand, general manager of the Pittsburgh division, has been named assistant to the vice president; and Paul A. Mankin, chief engineer of the local division, has been named

TWO GREAT NAMES...

THE BROADMOOR HOTEL

COLORADO SPRINGS, COLO.



Equipped with **GARLAND...**

THE GREATEST NAME IN COMMERCIAL COOKING!

GARLAND is best . . . sales prove it!

This is a fact: Day in, day out more Garland commercial cooking equipment is used to prepare meals than any other make!

That's because Garland is noted for perfect results . . . whether the cooking operation is large or small. The finest chefs rely on Garland not only for its speedy ways and dependability, but for its unmatched flexibility and outstanding performance. They *know* Garland is tops! Phone, wire or write for full details.

GAS SUPPLIED BY COLORADO INTERSTATE GAS CO., COLORADO SPRINGS, COLORADO.
SOLD AND INSTALLED BY CARSON HOTEL SUPPLY COMPANY.

Louis Strata, Head Chef of the Broadmoor Hotel, uses Garland and can serve more than 3,000 meals daily.

The battery formation illustrated includes: Spectro-Heat Hot Top; Open Top; Unitherm Fry Top; Deep Fat Fryer; and Side Fired Broiler. Units available in standard black-Japan or Stainless Steel finishes.

Every Sale A Dealer Sale!

Have you joined the 45-29 Club?

GARLAND

DM PRODUCTS

Heavy Duty Ranges • Restaurant Ranges • Broiler-Roasters • Deep Fat Fryers
Broiler-Griddles • Roasting Ovens • Griddles • Counter Griddles • Dinette Ranges

PRODUCTS OF DETROIT-MICHIGAN STOVE CO., DETROIT 31, MICHIGAN
IN CANADA: GARLAND-BLODGETT LTD.—1272 Castlefield Ave., Toronto

general manager. Arthur W. Krause, assistant general manager, has been named factory manager.

In his new position, Mr. Rowand, who has headed the Pittsburgh division since 1951, will help with special assignments and will head the company's Register and Drill Unit divisions.

Mr. Mankin, a former vice president of Bowser Inc., is a nationally known expert in the field of gasoline and oil measurement and has played a considerable part in the development of the science of electromagnetic metering.

Arthur Krause

Paul A. Mankin

Mr. Krause has been successively a time study engineer, division industrial engineer and eventually assistant to the general manager of Rockwell's Bellefontaine, Ohio, power tool plant. In March, 1954 he was transferred in the same capacity to the Pittsburgh division.

Butane Propane

Carter

A name associated with the oil industry since Sisterville, West Virginia, in 1893 . . over 60 years of experience.

CARTER'S reputation for dependability, which has been earned during these years, is yours when you buy LP gas from Carter.

Call CARTER when you need Butane or Propane — for domestic or industrial purposes — and you call an unexcelled supplier, with unexcelled products.

THE CARTER OIL COMPANY
TULSA, OKLAHOMA

Honeywell Names Three To Midwest Region Posts

Three field personnel changes in Minneapolis-Honeywell Regulator Co.'s midwestern region have been announced.

Arnold Challman, for the past four years manager of the company's branch office in Peoria, Ill., has been named to the newly-created position of administrative assistant to Manager T. S. Carley in the company's regional sales and service office in Chicago.

R. C. Ferguson, formerly manager of Honeywell's district sales office in Davenport, Iowa, will manage the Peoria branch office, while R. R. Scott, former regional sales manager for the company's valve division in Chicago, is the new manager of the Davenport office.

McGill President, Manager For New Eclipse Plant

Completion of the new 10,000-sq ft plant for its Canadian subsidiary, Eclipse Fuel Engineering Co. of Canada Ltd., Toronto, Ontario, is announced by officials of Eclipse Fuel Engineering Co., Rockford, Ill.

Under the direction of Bert H. McGill, newly appointed president and general manager, the Canadian plant will manufacture, engineer, and distribute Eclipse industrial and commercial heating equipment. Majority of the manufacturing operations will continue to be centered in the Rockford, Ill., plant.

Frame, Mitchell Elected To Cities Service Board

The election of two new members of the board of directors of Cities Service Co. is announced. These are A. P. Frame, in charge of manufacturing, research and petrochemical development, and Charles S. Mitchell, in charge of transportation facilities of the Cities Service system.

They will fill vacancies on the board created by the resignations of Herbert R. Straight of Bartlesville, Okla., and E. H. Johnston of Westfield, N. J., both retired.

M. F. Wirges has been appointed assistant to the manager of the Cities Service Natural Gasoline-Chemical division.

Other advancements include Bob L. Galloway to the superintendency of the division's statistical and proj-

NOW... NEW!

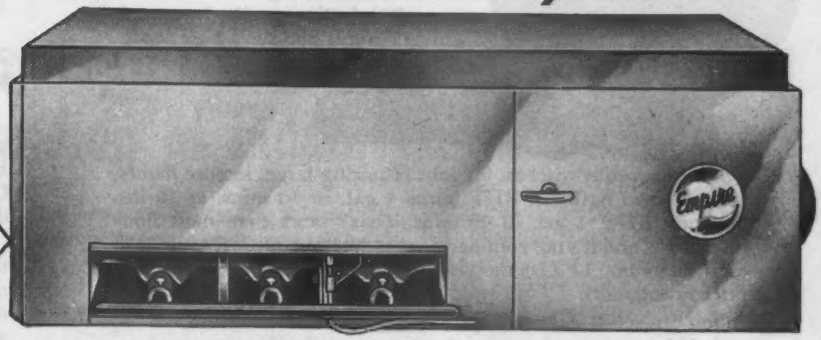
nothing like it in this world!

EMPIRE

MAKES THE BEST *Gas* HEATING APPLIANCES IN THE WORLD

✓ BASEMENT
✓ UTILITY ROOM
✓ CLOSET

There's **NO DOUBT** *about it!*
Priced right too!



HORIZONTAL UNIT

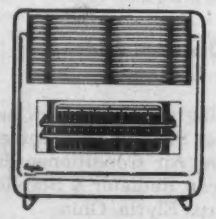
MOST EFFICIENT *Gas* BURNER MADE

SILENT IN OPERATION

MINIMUM FIELD SERVICE

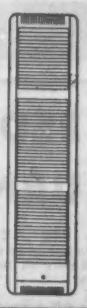
DEALERS ACCEPTANCE

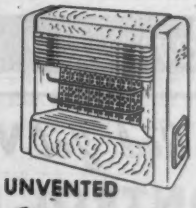
USER SATISFACTION



Gas CIRCULATOR HEATER

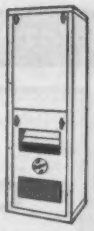
Gas FLOOR FURNACE





UNVENTED *Gas* HEATER

ZONE CONTROL RECESSED HEATER



COUNTER FLOW AIR CONDITIONER

WINTER AIR CONDITIONER

EMPIRE STOVE COMPANY

BELLEVILLE, ILLINOIS

WORLD'S LARGEST MANUFACTURER OF *Gas* FLOOR FURNACES

EASY WAY..

TO SWELL YOUR FUEL LOAD

RHT, 17½" long

RUT, 32¾" long, with home-made fixture for preheating

Sell RANSOME RHT *and* RUT *Torches to—*

Machine shops
Sheet metal shops
Oil fields
Farmers and ranchers
Garages
Factories
Slaughter houses
Public utilities
Public works departments

for

Melting lead, babbit and white metal
Pipe bending
Preheating
General heating and thawing
Fender repairs
Singeing
Weed burning and flame cultivating
Disinfecting poultry houses, dairy barns and swimming pools

These heavy-duty torches, for jobs requiring large, intense flames, are real load builders. RUT burns 1 gal. in 50 mins. at 10 lbs. pressure; RHT, 1 gal. in 90 mins. That's more than most floor furnaces... and it's not confined to cold weather. Most RANSOME torch users buy LP-Gas the year round, often in small, premium-priced containers.

You can sell RUT and RHT torches for hand or fixture use . . . and with trigger valve for intermittent work. They're good repeaters—several dealers have sold 100 to 200 in a year!! Single users frequently buy several torches . . . and every torch helps build your fuel load.

Cash in NOW. Write TODAY for price list, discounts and catalog.

RANSOME COMPANY

Liquified Petroleum Gas Division

ROOM A-3 • 4030 HOLLIS STREET • EMERYVILLE, CALIF. 36

Ransome

Red Jet WEED CONTROL BURNER

USES LIQUID L. P. GAS — The Most Economical Burner Yet Designed.

- Uses Full Tank Pressure.
- Throws Flame 8 to 12 Feet.
- Flame Temperature 2500 Degrees, Plus.
- Burns 12 to 25 Gallons Per Hour.

The RED JET Has Many Applications In Farm, Commercial and Industrial Uses!

- Kills All Annual Weeds.
- Kills Insects — Destroys Their Eggs.
- Prevents Reseeding.
- Decreases Labor Cost in the Fields.

Manufactured by Northwest Fabricators, NYSSA, OREGON

ects development department; George C. Vaughan to assistant to the division superintendent of sales; Brenton O. Buck to senior process engineer; Edgar C. Carlson to superintendent of operations; W. C. Giles to gas engineer and tester in Odessa, Texas.

Perfection Stove Co. Promotes Alice Holton

Perfection Stove Co., Cleveland, announces the promotion of Mrs. Alice Holton to the post of director of public relations. For the past eight years Mrs. Holton has served as the company's publicity director.

Other Perfection personnel changes include the election of Manning E. Case to the post of secretary and treasurer of the company, succeeding Paul T. Skove, who is retiring after 45 years with the company; and the election of John H. Foster to the position of assistant secretary and assistant treasurer.

Zenith Carburetor Appoints Bimberg New General Manager

E. M. Bimberg has been appointed general manager of the Zenith Carburetor division of Bendix Aviation Corp., Malcolm P. Ferguson, president of Bendix, announces.

Mr. Bimberg joined the Zenith staff in 1916. In 1927 he was promoted to design engineer and in 1938 to chief engineer. During World War II he was named factory manager. After the war he returned to his post as chief of the engineering department for Zenith's extensive line of truck, tractor, marine and industrial carburetors and filters.

Sunbeam Division Adds Nine Sales Engineers

Nine cooling sales engineers have been added to the field sales force of the Sunbeam Air Conditioner division, American Radiator & Standard Sanitary Corp., Elyria, Ohio.

Territories assigned to these new field representatives are: James I. Bickley, Baltimore-Washington, Philadelphia, Richmond territory; W. D. Campbell, Pittsburgh, Buffalo, Tri-State territory; H. I. Dingle, Texas territory; C. E. Johnson, Chicago, Wisconsin-Illinois, Minnesota, Omaha territory; T. J. Conway, St. Louis, Kansas City territory; Maurice G. Nelson, Cincinnati, Cleveland, Detroit, Ohio territory; John B. Mitchell, Boston, New York, Newark territory; Lester G. Simpson, New Orleans territory; and Robert T. Watt, Atlanta territory.

Less meter-reading time... better public relations

Rugged diaphragms of Du Pont "Fairprene" permit outside reading of indoor gas meters

TEFLON®
Tetrafluoroethylene resin coated glass fabrics

These materials, designed primarily for the electrical industries, have found many applications in other fields because of their unique combination of properties. Diaphragms, gaskets, conveyor belts, fuel cells, and non-sticking covers for heating elements on packaging equipment are only a few of the other uses to which they have been put.

Their extraordinary properties include:

Flexibility at -100°F., continuous use at +500°F., essentially complete chemical resistance, self-lubrication, and exceptional anti-adhesive or non-sticking ability.

For further information on the properties and uses of these unique materials clip and mail the coupon below.

Providing diaphragms for a device that repeats the exact position of the hands of the gas-meter index, but at an outside location, calls for a material with exceptional durability and sensitivity to temperature fluctuations.

Recently the Sangamo Electric Company, Springfield, Ill., found that diaphragms made of Du Pont "Fairprene" coated nylon fabric met with their requirements in the development of their Telemeter. "Fairprene" had greater diaphragm flexibility and showed positive resistance to loss of coating when subject to the aromatic solvents encountered in manufactured gas. Constant flexing action did not bring about a breakdown of fatigue of the elastomer.

They also found in factory testing the meter device that the outside dial would accurately record at any temperature from -40 to 180 degrees (F.). Distance between the meter and the outside receiver can vary from a close connection to a distance of 125 feet because of "Fairprene" sensitivity.

"Fairprene" is preferred in many kinds of diaphragms and in hundreds of other industrial uses. "Fairprene" is tough, lightweight and extremely durable. It has a low permanent set or drift and resists aging in oxygen as well as gasoline, grease and kerosene.

Du Pont engineers will gladly work with you to evaluate "Fairprene" for designing new products, or for improving your present products and manufacturing methods. They'll work with you in engineering special grades of "Fairprene" to meet your specific needs. For prompt assistance, fill out and mail the coupon below.

DU PONT FAIRPRENE®

synthetic elastic compositions

"ENGINEERED TO DO YOUR JOB BETTER"

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

**"FAIRPRENE" is Du Pont's registered trade-mark for its line of products made from synthetic elastomers available in the form of coated fabrics, sheet stocks without fabric insert and adhesives.*

E. I. du Pont de Nemours & Co. (Inc.)
Fabrics Division,
Dept. BP-53, Fairfield, Conn.

☐ Please send me booklet "'FAIRPRENE' synthetic elastic compositions."
☐ Please send me Technical Bulletin "'TEFLON' Coated Glass Fabrics!"

Name_____ Title_____

Firm_____

Address_____

Trade Notes

M. W. Cook has been appointed a field engineer for *Chiksan Co.* He will cover the petroleum drilling, production and marketing industry throughout southern California.

W. C. Waggoner Jr. has been elected secretary, treasurer and member of the executive committee of *Florence Stove Co.*, succeeding A. E. Luke, who has retired after 30 years with the company.

The Utility Fan Corp., Los Angeles, announces the appointment of *Vance Smith* as manager of all operations for the air moving equipment manufacturing firm. Until his present appointment, Mr. Smith was assistant manager of the corporation.

Clarence S. Wentworth, manager of *Worthington Corp.s* Detroit district office, has been appointed central region sales manager. Mr. Wentworth will succeed *William A. Meiter*, promoted to general sales manager.

Wayne Cole has been appointed head of accounting at *White Products Corp.*, Middleville, Mich.

Michael P. Noll

Michael P. Noll, a member of the sales organization of Servel Inc. since 1933, died of a sudden heart attack at his home in Kansas City, Kan.

At the time of his death Mr. Noll was district sales manager for Servel in the Kansas City area, including Nebraska, Kansas and western Missouri. Previously he had been located in Boston, Lake Charles, La., Houston and Dallas.

William P. Burt

William Preston Burt, 46, of McComb, Miss., died in his sleep at his suburban home near McComb. Mr. Burt succumbed to a heart attack.

Mr. Burt attended McComb schools and the University of Mississippi. Following extensive service with the U. S. Army in World War II, he returned to McComb. With his brothers he founded the Burt Plumbing & Butane Gas Co.

W. Paul Jones

W. P. Jones

W. Paul Jones, vice chairman of the board of directors of Servel Inc. and president of the company from 1949 to 1954, died of a heart attack in St. Mary's hospital in Evansville, Ind. He was 53 years old.

Mr. Jones' experience in the refrigeration and air conditioning industry extended over a period of 35 years. From 1920 to 1929 he served successively as a service manager, sales manager, and general manager for Frigidaire distributors in Indianapolis and Evansville.

In 1949, Mr. Jones became president and general manager, succeeding Louis Ruthenburg, who had been elevated to board chairman. Under Mr. Jones' presidency, Servel's appliance line was expanded by the addition of "automatic ice-maker" refrigerators, portable refrigerettes, room air conditioners, and home freezers.

In September, 1954, Mr. Jones became vice chairman of Servel's board and was succeeded as president by Duncan C. Menzies.

If the vent is drawing properly, the flame will be drawn into the draft hood. If the vent is not drawing properly, the flame will be blown away or snuffed out entirely. When this happens, you know that harmful vent gases are spilling into the room and the appliance is not being vented correctly.

this test is important . . . to you—and your customer

With poor venting, everybody loses! To your customer, vent gas spillage means stuffy, stale-smelling room air and possible condensation damage to walls and furnishings. To you, it means troublesome complaints and call-backs, and often the need to make costly repairs or replacements.

be SURE your next venting job is right—with METALBESTOS

Metalbestos—the double-wall, **insulated** vent pipe—keeps the gases hot **inside** the vent, assuring a quick, strong draft for the complete removal of combustion products. The same insulating principle keeps the outer pipe cool, thus offering much greater protection than single-wall vents against dangerous overheating of adjacent surfaces.

USE METALBESTOS . . . *it costs less to be sure with the best*

Listed by Underwriters' Laboratories, Inc. as a Type B vent for use with approved gas appliances.

METALBESTOS DIVISION
WILLIAM WALLACE COMPANY • BELMONT, CALIF.

Stocked by principal jobbers in major cities. Factory warehouses in Atlanta, Dallas, Philadelphia, Des Moines, Chicago, New Orleans.

JOHN WOOD Automatic GAS water heaters

COST LESS TO OPERATE

AND YOU CAN PROVE IT!

It's SAVINGS that make sales

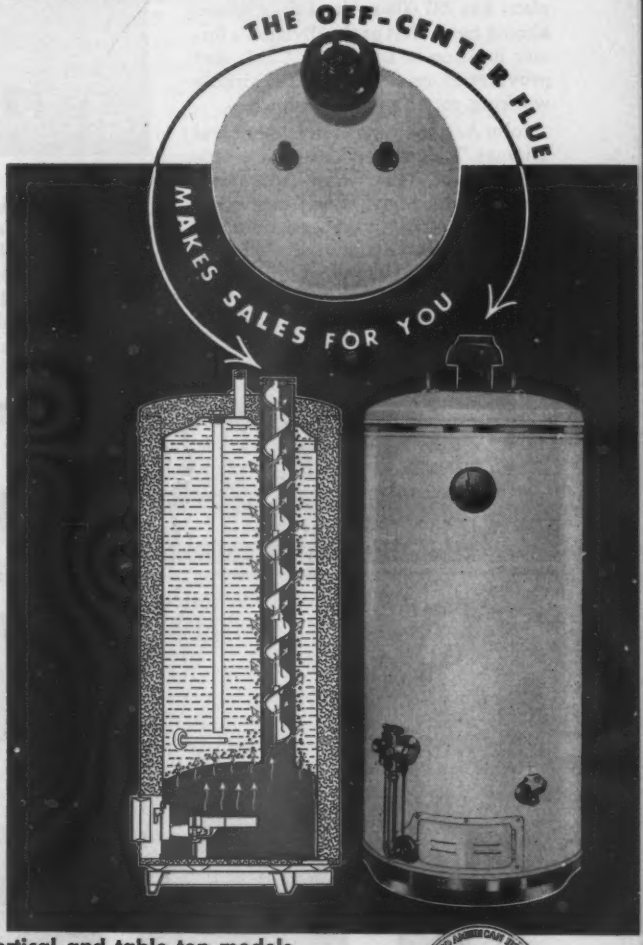
It's here—ready to work for you! JOHN WOOD has a water heater story that's a natural for sales! BY ACTUAL TEST, John Wood Water Heaters cost your customers less per gallon for hot water . . . make *savings no other construction can match!* That's because the OFF-CENTER flue construction—developed and featured by JOHN WOOD—beats every known water heater construction for economy in test after test.

That one fact gives you a real edge on all your competitors. Nobody has an economy story like yours when you feature JOHN WOOD. *Nobody* has the profit chances you get with the proved JOHN WOOD economy story!

Here's potent sales material—backed up by the hardest hitting program of promotion and advertising yet—*all working for you and your bigger profits.*

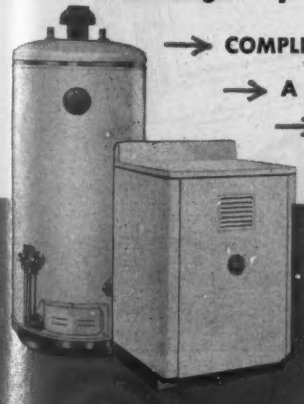
Ask your JOHN WOOD representative for the full story.

Write for FREE Book "How Do You Judge a Water Heater"—Today!



BEATS the rest by EVERY test

JOHN WOOD gives you more to build sales—



- COMPLETE LINE of sizes and styles, vertical and table top models
- A PRICE FOR EVERY BUDGET
- THE ONLY WATER HEATER OFFICIALLY SELECTED BY *Mrs. America*
- FULL PROMOTIONAL HELPS to build your sales

JOHN WOOD

Finest glass-lined or galvanized water heater anywhere!

JOHN WOOD COMPANY

HEATER AND TANK DIVISION

Conshohocken, Pennsylvania and Chicago, Illinois

NEWS

News and news notes about the activities of manufacturers, distributors and dealers.

Grayson Controls Division Opens Long Beach Plant

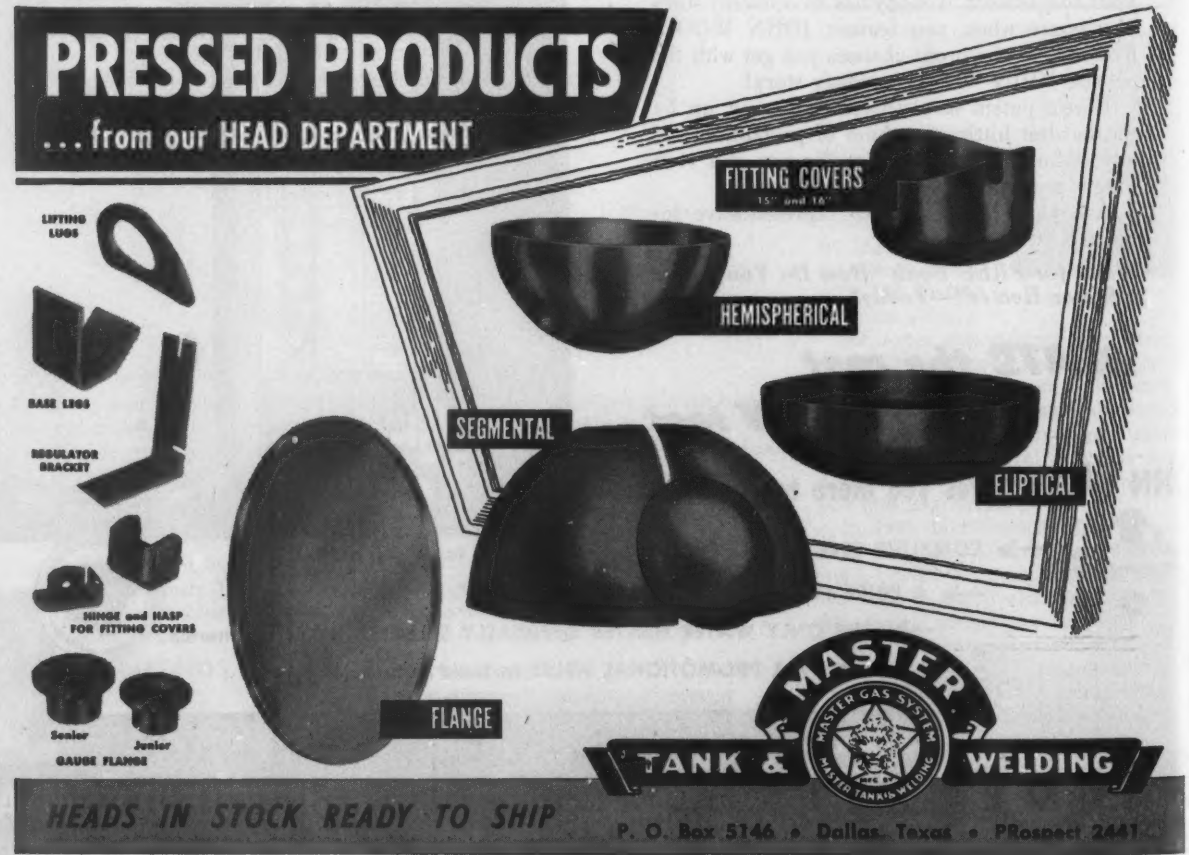
Robertshaw-Fulton Controls Co. will be able to double its production of thermostatic controls and ignition devices for gas heating appliances at its new Grayson Controls division plant in Long Beach, Calif.

The $3 million Grayson division plant has 237,000 sq ft of floor space, almost twice that at the division's former location in Lynwood, Calif., and provides more efficient and desirable working conditions for employes.

John A. Robertshaw, president, and Thomas T. Arden, executive vice president of Robertshaw-Fulton and general manager of West Coast operations, were hosts to several hundred businessmen and community officials at the formal opening of the plant. Guests toured the plant following a buffet luncheon in the employe cafeteria.

Glass and stone entrance greets visitors to the new 237,000-sq ft plant of Grayson Controls division, Robertshaw-Fulton Controls Co. The $3 million plant will produce automatic control devices for home appliances and industry use.

Opening of the plant, it was pointed out, completes another major link in Robertshaw-Fulton's current national expansion program. The company has added new facilities at Irwin and Indiana, Pa.; Anaheim, Calif., and Toronto, Canada, during the past year, and presently has a large plant under construction at Milford, Conn.



TAILOR MADE BY McNAMAR

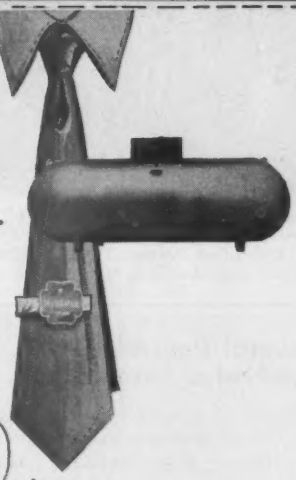
Financing is NO problem . . .

McNamar can solve your financing problems on both storage and domestic tanks . . .

For example, McNamar can give you tanks based on a six month payout plan, a ninety day billing, and McNamar also has a three to five year lease plan available . . .

We can assure our dealer not only a competitive price, a quality product, but also assistance with any problems that might confront him in future years . . .

McNamar dealers are always competitive.



The PERFECT tie-in . . .

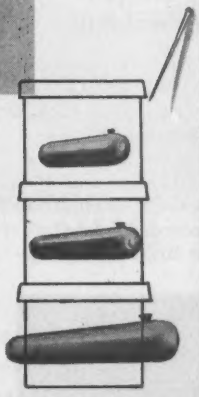
McNamar stands on its record of performance to give you the best tank money can buy . . .

Anywhere McNamar can save you money by truck or by F.I.T. shipment . . . Take a look at these outstanding features . . .

- UL approved on all standard sizes
- ASME 250 lb. working pressure meets and exceeds all requirements of U-69
- Three liquid lines (Built in excess flow).

See McNamar before you buy.

WHAT'S YOUR SIZE?



Name your size and McNamar has it. Whether it's a 115 gallon to 1000 domestic system or a 6000 to 30,000 gallon storage tank, we can meet your requirements . . . for size . . . quality of workmanship . . . speed of delivery . . . *You can depend on McNamar.*

Styled for you!

The skillful engineering design that goes into every McNamar tank unit combines "Quality" with the other advantages you need for a dependable operation. Every tank is custom-balanced to the truck it's built for. Single or twin barrel — McNamar is your best buy . . . Send us your specification and we will submit quotations . . .

McNAMAR TULSA

McNAMAR BOILER & TANK CO.

BOX 868 • TULSA, OKLAHOMA

Winners of the 1954 Magic Chef Century club awards include, left to right: Roger Blackman, Eastern sales division; Marty Kohn, Atlantic sales division; Don Neftzger and Leroy Earl, Midwest sales division; Paul Newkirk, E. B. Hanmer, and J. W. Denk, Central sales division. Not pictured is Pete Taylor, Southeastern sales division.

General Controls Co. Celebrates Silver Jubilee

As one of the exhibitors at the January Home Builders show in Chicago and Heating & Ventilating exposition in Philadelphia, General Controls Co. of Glendale, Calif., began its celebration in 1955 of the company's silver jubilee, marking 25 years as a manufacturer of automatic controls for home, industry, and the military.

Plans are under way for celebrating this milestone with special events throughout the year, coupled with sales promotion and advertising programs, and expansion of facilities.

Construction has begun on two additional facilities at General Control Co.'s plant in Glendale, Calif. The current expansion project consists of adding to both the engineering and administrative facilities.

A 15,000-sq ft addition is being added to the present engineering area and will be used for both tooling and engineering, particularly in the research and development phases. The two-story addition will adjoin the present engineering building.

A second story is being added to the main administrative building, increasing the office area by one-third. The expansion will provide facilities for new methods of market analysis and electro-data automatic business machines.

Vearl Heinis, general sales manager of Rheem Manufacturing Co., demonstrates features of the material used to glass-line the company's new water heaters. Watching demonstration at the Rheem Chicago plant are J. P. Makenas (left), general manager of the company's central region, and W. S. Rheem II (right), general manager of the company. Mr. Heinis is dropping acid on a sample of the glass-lined steel sheet to demonstrate the tough qualities of the glass-lining materials and bonding process.

Earl Gammage Elected Pan American President

Announcement has been made of the election of Earl W. Gammage as president and chairman of the board and T. Earnest Gammage Jr. as executive vice president of Pan American Fire & Casualty Co. and Pan American Insurance Co. of Houston. Earl Gammage succeeds his late father, T. E. Gammage Sr., whom he assisted in the organization of the Pan American insurance companies.

Earl Gammage has served as vice president and general counsel of the companies since the inception of the original company in 1939. During his father's illness, Earl Gammage and his brother, also a former vice president, took over the active management of the companies.

The casualty company's name was recently changed from Pan American Casualty Co. to Pan American Fire & Casualty Co.

Parkhill Moves Offices To San Marino, Calif.

C. L. Parkhill, consulting engineer in the liquefied petroleum gas casing head and natural gas fields, announces the moving of his office and those of Parkhill-Wade and the Parkhill Co. to 2264 Huntington Drive, San Marino.

The Parkhill Co. has taken over the manufacture of the Parkhill-Wade safety nozzle and its parts formerly made by Selwyn-Landers. This company will also handle high capacity liquefied petroleum gas vaporizers, dehydrators and other special equipment for LPG.

Arkansas Court Rules Against Fair Trade Law

Arkansas Supreme Court has held that price fixing under the 1937 Arkansas Fair Trade act is unconstitutional. The ruling affirmed an independence chancery court decree favoring White River Distributors Inc., Batesville.

Union Carbide & Carbon Corp., manufacturer of Prestone anti-freeze, had sued White River, charging the sale of Prestone at $2.97 per gallon at a time when the fixed selling price was $3.75 per gallon. (See BPN, Jan., p. 114.)

Warren Corp. Announces New Advertising Program

Warren Petroleum Corp. has announced a major advertising program to promote the growth and prosperity of the L. P. gas industry. The advertising campaign is beginning immediately in a number of major farm and general magazines reaching rural and small town America.

According to a spokesman for the company, Warren has been "increasingly concerned about providing the independent home town distributor of L. P. gas with more advertising backing to meet the aggressive advertising activities of competitive fuels, especially electricity. (It believes)

A NEW LMC

MONEY MAKER

SINGLE AXLE 5000 GALLON TRANSPORT

This LMC transport tank makes possible a new high in payloads, with only a single axle trailer and tractor. The two-ton class truck will pull this unit nicely. Empty trailer weight is 14,790 lbs.; total payload is 19,100 lbs. (4500 gallons of propane), suggested truck weight is 6,000 lbs.; a total of 39,890 lbs. This transport tank, like all LMC units, is designed for Low Mileage Cost.

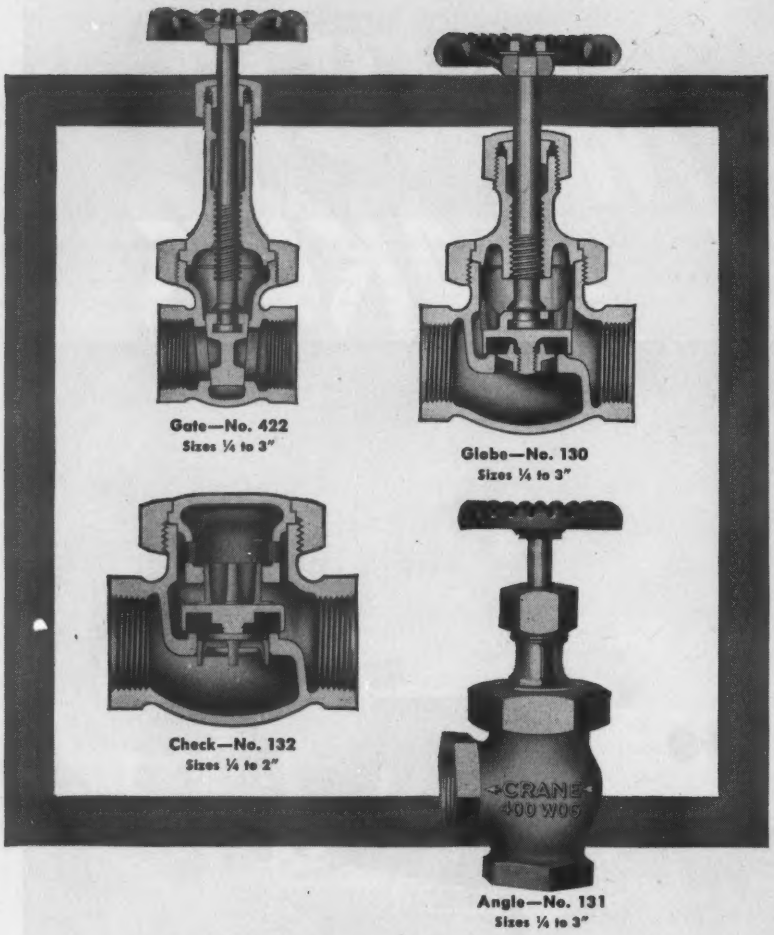
Buy on the LMC budget plan!

WRITE FOR ADDITIONAL INFORMATION, PRICES AND PAYLOADS

LUBBOCK MACHINE & SUPPLY CO

P. O. DRAWER 1589 POrter 2-5261 LUBBOCK, TEXAS

LMC
LOW MILEAGE COST



Now in sizes up to 3 in.

Crane Bronze Valves for LP-Gases

New 2½- and 3-inch size gate, globe, and angle valves available immediately—in addition to all smaller sizes from ¼ to 2 inches as formerly. Your local Crane Branch or Crane Wholesaler is ready to fill your order.

Bulk plant operators find these Underwriters' approved Crane quality valves the wisest choice for low ultimate cost. They're more dependable . . . they save on maintenance . . . and last longer. Tank truck builders and LP-Gas piping contractors prefer the name Crane on valves for the added value it means to customers. Talk it over with your Crane Representative.

CRANE CO.

General Offices: 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

CRANE'S FIRST CENTURY . . . 1855-1955

that the future of the L. P. gas industry depends on home town selling, in which local distributors build their own businesses on the basis of service and good quality of product."

The selling campaign will tell people exactly what L. P. gas can do for them and why it is better than other fuels. The advertising program is planned in such a way that the advertisements are heavily concentrated month after month in the home counties of Warren distributors.

The campaign will be run throughout the year in *Capper's Farmer, Farm & Ranch, Progressive Farmer, Missouri Ruralist, Nebraska Farmer* and *Kansas Farmer.*

Fisher Governor Co. Buys Woodstock Factory

Fisher Governor Co., Marshalltown, Iowa, has purchased a factory building in Woodstock, Ontario, Canada, and will start manufacturing operations there this spirng.

The plant in Woodstock, constructed in 1952, is a modern one-story building with 17,250 sq ft of space. Fisher diaphragm motor valves, liquid level controllers and gas regulators will be manufactured there.

William J. Bestmann, who has been in charge of production scheduling in Marshalltown, is moving to Woodstock as general manager of the Canadian plant.

Servel Inc. Reports 1954 Sales Decrease

Cutbacks in defense production and depressed markets for civilian products resulted in a net loss of $8,157,766 for Servel Inc. during the fiscal year ended Oct. 31, 1954, according to the company's annual report to stockholders. The 1954 loss compared with a net loss for the previous fiscal year of $1,983,511, after a tax recovery of $1,029,400.

Net sales in 1954 total $87,817,080, as compared with all-time high net sales of $147,586,716 in 1953.

The past year's operations were equivalent to a loss of $4.74 per share of common stock, as compared with a loss of $1.25 per share in 1953.

Among the factors which contributed to Servel's problems this past year were unseasonably cool summer weather in many parts of the country, which delayed the sale of room air conditioners, excessive inventories of both raw materials and finished products, and slow liquidation of accounts receivable.

Servel has announced a new organization plan for the company, based

New stars in the Janitrol PARADE OF PROGRESS

BRING YOU MORE SALES AND PROFIT OPPORTUNITIES

All New

UNIT HEATERS

The famous Janitrol Gas-Fired Unit Heaters have been redesigned for even better performance and easier installation! They're acoustically engineered for a new standard of quietness. The new compact design gives more "head-room" clearance. Every size has the famous Multi-thermex heating heart and double-safety overheat control for extra durability and performance. All of the many improvements will make these new Janitrols easier for you to sell, install and service.

Added

DOWN-FLOW FURNACE

An all-new, gas-fired warm air conditioner designed for the popular perimeter-type heating used in basementless homes. The unit has the exclusive Multi-thermex heat exchangers and quiet ribbon-flame burners. Standard blower has capacity for small duct systems; optional blower available for use with cooling. All parts and controls are easily accessible from the front. Approved for close clearance and closet installations. Available in 80,000, 100,000 and 120,000 Btu/hr. inputs.

Added

HORIZONTAL COOLING UNIT

This new summer conditioner gives you new flexibility for your central cooling installations. Can be located in attic, crawl space or suspended overhead. Uses include combinations with existing forced warm air systems; as unit coolers (with blowers); or with wet heat systems, since minimum duct work is required. The water-cooled refrigerating unit is hermetically sealed and warranted. Separate blower-filter units are available. Capacities are 2 and 3-ton, 230 V., single phase.

WHOLESALERS AND CONTRACTORS

Write for all the facts on the Janitrol line of quality heating and air conditioning equipment.

®Janitrol
HEATING AND AIR-CONDITIONING
DIVISION

Surface Combustion Corporation, Columbus 16, Ohio
In Canada: Alvar Simpson Ltd., Toronto 13

Enterprise Presents

America's first line of profit for 1955

STARRING...FULL PROFITS!

The Enterprise Golden Line fits snugly into the retail price brackets where 70% of the range business is done...with a full profit for you!

FEATURING...SALES APPEAL!

The Enterprise Golden Line wins friends and influences sales with lifetime-guaranteed top burners...automatic lighting...automatic clock control...lifetime porcelain inside and out...plus many more!

INTRODUCING...DYNAMIC STYLE APPEAL!

The Enterprise Golden Line is distinguished by the most dynamic styling in its field!

The all-new Enterprise Golden Line is everybody's first line of profit. Write today for the full profit story.

PHILLIPS & BUTTORFF MANUFACTURING COMPANY
NASHVILLE, TENNESSEE
Established 1858

on the establishment of five autonomous operating divisions, each under the independent management of a vice president-general manager with full authority and responsibility.

Another step taken to strengthen Servel's operations is a $9 million financing arrangement. Of the total fund, $7 million was set up as a revolving credit by banks in New York, Chicago and Evansville, Ind. The other $2 million was advanced to Servel by private sources.

Dearborn Consolidates Northern Sales Operations

Headquarters of sales operations in all northern states for Dearborn Stove Co. have been consolidated in Chicago, according to a recent announcement by E. S. Kleinmann, Dearborn vice president and general sales manager.

C. Douglas Havens, Dearborn sales representative in the area, is the northern states regional sales manager. Although the company has moved its sales headquarters for the northern portion of the country to Chicago, it will continue to maintain warehouses and local sales representatives in a number of key northeastern states.

Lareau Addresses White Divisional Managers

R. A. Lareau, president of White Products Corp., addressed the company's divisional managers at the annual sales meeting in Grand Rapids recently.

Mr. Lareau assured the water heater sales force that increased plant facilities would enable the company to meet increased sales efforts during 1955. He also told the group that the company had under consideration product diversification plans for 1955.

Addressing the company's divisional managers at the annual sales meeting in Grand Rapids, Mich., is R. A. Lareau, president of White Products Corp.

Keep Up with L. P. gas Developments Each Month

BUTANE-PROPANE News

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198 SOUTH ALVARADO STREET, LOS ANGELES 57, CALIFORNIA

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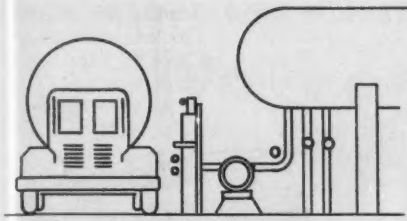


CUT EXPENSE FROM COSTLY SHUTDOWNS

The time lost during a breakdown can be more expensive than the price of the finest pump. Smith Pumps are designed to last as long as expert engineering and the best available materials can make them. The working principle is such that pumps maintain full efficiency even when the parts show considerable wear. Hardened shafts of special alloy steel are used throughout. Gear bushings are special bronze and carbon-graphite combination. Gears are toughened alloy iron. When properly installed and used, Smith Pumps give unbelievably long life and great satisfaction.

In order to avoid any possibility of mistakes in workmanship, Smith Pumps are given the most careful series of tests used in the industry. Cases are tested for leaks with compressed air at 300 lbs. pressure. Pumps are run on liquid at higher than standard differential pressure, and gallons per minute delivery, as well as speed and horsepower required, are noted. The results are entered on permanent records. All pumps must meet our high standards before being released for shipment.

In all of our work, we do everything we can to cut your expense from costly shutdowns. You can help by checking your pump installation to be sure it conforms to the instructions that are sent out with every pump.

Write to the factory for catalog, prices, and further information on Smith Pumps.

SMITH
PRECISION PRODUCTS CO.

1135 MISSION STREET, SOUTH PASADENA, CALIFORNIA

Telephone PYramid 1-2293 or PYramid 1-2691

TC-1044 TRUCK PUMP:

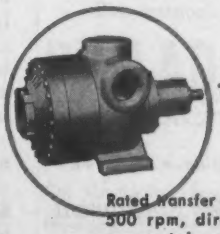
Rated transfer capacity 20 gpm at 500 rpm, directly connected to power take-off. For 1½" piping. Weight 40 lbs.

TC-1044H TRUCK PUMP:

Rated transfer capacity 35 gpm at 700 rpm, directly connected to power take-off. For 2" piping. Weight 40 lbs.

TC-2 TRUCK PUMP:

Rated transfer capacity 50 gpm at 500 rpm, directly connected to power take-off. For 2" or 2½" piping. Weight 100 lbs.



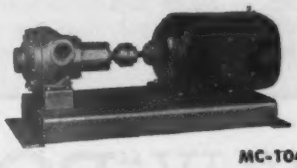
TC-3 TRUCK PUMP:

Rated transfer capacity 100 gpm at 500 rpm, directly connected to power take-off. For 3" piping. Weight 130 lbs.

BULK PLANT MODELS

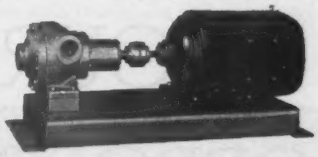
MC-1:

Rated transfer capacity 5 gpm wth ½ hp 1800 rpm motor and 10 gpm with ¾ hp 3600 rpm motor. For 1" piping.



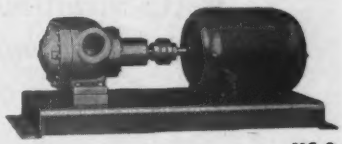
MC-1044:

Rated transfer capacity 20 gpm with 1½ or 2 hp motor. For 1½" piping.



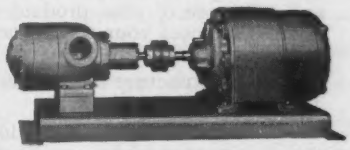
MC-1044H:

Rated transfer capacity 35 gpm with 2 or 3 hp motor. For 2" piping.



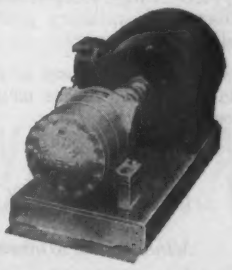
MC-2:

Rated transfer capacity 50 gpm with 3 or 5 hp motor. For 2" or 2½" piping.



MC-3:

Rated transfer capacity 100 gpm with 5 or 7½ hp motor. For 3" piping.



MC-4:

Rated transfer capacity 150 gpm with 7½ or 10 hp motor. For 4" piping.

Northwest Hydro Receives LPG From North Dakota

The first shipment to Minnesota markets of liquefied petroleum gas produced in North Dakota has been consigned to Northwest Hydrogas Co., L. P. gas and appliance dealers in New Brighton, a suburban community northwest of the Twin City area of Minneapolis-St. Paul.

The company will receive more than ¼ million gal. of propane produced in North Dakota refineries. Charles Bubar, spokesman for the company, said "To my knowledge, this is the first shipment to Minnesota of L. P. gas recovered from North Dakota crude oil and processed in North Dakota refineries."

The first shipment to Minnesota markets of L. P. gas produced in North Dakota is unloaded at New Brighton, Minn., where it has been consigned to Northwest Hydrogas Co.

This was an auxiliary shipment made to supplement the company's supply of L. P. gas received regularly from plants and refineries located in the Southwest and Mid-Continent areas. Delivery time from North Dakota sources of supply is almost half that of the time it takes to transport L. P. gas by rail from plants and refineries in the Southwest.

Production of L. P. gas was started late last year in North Dakota, one of the country's newest oil and gas producing states. LPG products are now being recovered from crude oil processed in refineries operated by Standard Oil Co. (Ind.) at Mandan, and Signal Oil & Gas Co. at Tioga.

WHY "BOTTLE UP" YOUR SALES OPPORTUNITIES?

FAC *installment sales financing can help you move ahead if you are a manufacturer of LP gas equipment*

If you are a vigorously competing manufacturer in the LP gas equipment industry, there is no need for you to be *held back* for want of an installment selling program.

First Acceptance Corporation can help you reach more prospects and sell more of your product with an installment sales program tailored to meet your special needs. Our plan will also enable you to meet the increasing demands of your present customers.

Do you manufacture the following equipment?

Cylinders • LPG domestic systems • Bulk storage tanks • Trailer transports • Truck transports • Anhydrous ammonia equipment

If you do, then FAC's facilities can help you.

First Acceptance Corporation operates nationally and is thoroughly familiar with industry problems. We are pioneers in this type of installment financing.

For a complete proposal of the financing services that FAC can make available to you, please write or telephone today. Your inquiry will receive prompt attention.

FIRST ACCEPTANCE CORPORATION

Minneapolis, Minnesota • 820 Northwestern Bank Bldg. • Main 4451

Discount Bankers Serving Manufacturers of LP Gas Equipment

Alabama LPGA Plans Second Service School

Plans for the Alabama LPGA's second annual service school for servicemen are well underway. The school will be held the week of May 15 in Tuscaloosa at the State Vocational Trade school.

The school, which will be limited to 100 students, will be devoted largely to safety and controls. Each class will be limited to 25 people.

Petrolane Sets New High In Net Transport Capacity

With payload capacity of 8839 gal. of butane, two new transports recently placed in service by Petrolane Ltd., Long Beach, Calif., are believed to have set a new high in net transport capacity for LPG transport and trailer units.

This unusually high net capacity is made possible by the use of light weight materials instead of steel wherever their use is practical or permissible. Cargo tanks are made of high strength aluminum alloy with

NEW GLOBE AND ANGLE PROPANE

Valves give 3 years'

NON-LEAKING service

WITHOUT DISC REPLACEMENTS OR STUFFING BOX ADJUSTMENTS!

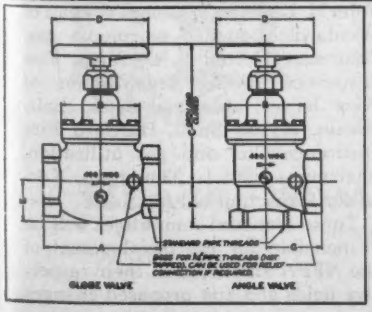
Patent applied for

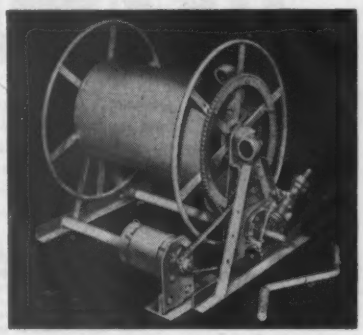
That's the record of these Philadelphia Valve Company valves in everyday operation. Customers are amazed at their years of trouble-free service. That gives them a valid claim to being the finest propane valves ever used by the petroleum industry.

These propane valves will not leak at the stuffing box or anywhere else, due to unique stuffing box design. There is no diaphragm. Eliminating it and using a non-rising stem makes these valves extremely compact—an advantage in close quarters such as a truck tank manhole. Doing away with the diaphragm also lets the disc lift well up into the bonnet, leaving a clear passage for liquid. And the resilient-type disc seats tight, even when dirt particles are present. The stuffing box seal may be replaced under pressure if necessary.

These globe and angle valves are designed for use in bulk plants, cylinder filling stations, industrial installations and truck tanks. Brass, cast steel and stainless steel models are available in regular or flanged styles. The valves—made in 1″, 2″, 2½″ and 3″ pipe sizes—are designed for 400 pounds working pressure. They can be furnished with Teflon or other special discs for use with chemicals and gases such as sulphur dioxide.

PIPE SIZE	GLOBE VALVES		ANGLE VALVES		DIMENSIONS						
	Code No.	Wt.	Code No.	Wt.	A	B	C	D	E	F	G
1″	A-3665	5.2 lbs.	A-3814	4.8 lbs.	3⅜″	2¼″	5″	3⅜″	1⅜″	1⅜″	1 19/16″
2″	A-3581	14.1 lbs.	A-3761	13.1 lbs.	6″	3⅜″	6¼″	4½″	2⅛″	2¼″	2⅛″
2½″	A-3574	24 lbs.	A-3832	22.3 lbs.	7¼″	4⅜″	8 7/16″	6″	2½″	2⅝″	3 7/16″
3″	A-3571	34 lbs.	A-3833	31.7 lbs.	8″	5½″	9 9/16″	6¾″	3½″	3⅛″	3 13/16″





PROPANE HOSE REELS

These hose reels, with explosion-proof motors, listed by Underwriter's Laboratories, Inc., are ideal for propane handling. Lightweight and strong—every part of steel, malleable iron or brass. Cast iron is never used. Each has 6 ball bearings with hardened and ground races. The swing joint features uninterrupted passages and self-tightening seal, enabling it to withstand the toughest work loads.

PHILADELPHIA VALVE COMPANY

ARAMINGO AVENUE AND EAST TIOGA STREET, PHILADELPHIA 34, PA.

Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, California
Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, California

working pressure of 125 psi in accordance with 1952 ASME specifications. The motive units consist of special Peterbilt trucks utilizing aluminum alloy for frames, hubs, axle housings, wheels and structural members wherever aluminum can be substituted for steel.

Power plants are Hall-Scott series 400 engines operated on propane from two 70-gal. tanks on each truck. The trailers are also of aluminum alloy construction and are of the special frameless design worked out by Utility Trailer and Superior Tank Co.

High net capacity of Petrolane's new transport and trailer units is made possible by use of light weight materials wherever practical and permissible.

These transport outfits are used only in carrying butane as the working pressure is not adequate for propane. Since Petrolane distributes large amounts of butane, the trucks can be kept in constant service. Performance is described as outstanding.

Dun & Bradstreet Asks Financial Statements

During January Dun & Bradstreet's 150 offices mailed their annual request for year-end financial statements. The requests went to approximately 3 million business concerns in the Dun & Bradstreet reference book.

Information furnished in the statement is confidential and made available only to subscribers of Dun & Bradstreet who indicate a credit interest. These subscribers agree to hold all information in confidence. There is no charge to the businessman for processing his statement; subscribers pay the entire cost.

This financial statement helps the businessman establish credit relationships with those from whom purchases of merchandise are to be made.

NFPA Reorganizes Committee on Gases

Under a reorganization plan just announced the National Fire Protection Association committee on gases has been subdivided into four sectional committees.

These are: utility gas, chairman, John H. Eiseman, National Bureau of standards; liquefied petroleum gas, chairman, Harold L. DeCamp, Fire Insurance Rating organization of New Jersey; industrial gases, chairmanes, Myron Snell, Hartford Fire Insurance Co.; and gas utilization, chairman, John L. Thompson, Kentucky inspection bureau.

These sectional committees will be responsible for the development of the NFPA standards in their respective fields and any proposed changes

$ummer $alesmakers

by Dearborn

makers of the famous cool safety cabinet gas space heater

Dearborn's famous Cool Safety Cabinet gas space heater is your biggest winter profit-maker — No. 1 in sales all over America. And, Dearborn's *summer comfort-makers* can be your biggest profit-makers, too. They're loaded with features and they're loaded with quality. They're highly competitive in price . . high in performance . . high in looks. And when you carry the Dearborn line you carry Dearborn's *reputation*, best selling tool of all!

the new 1955 Dearborn Room Air Conditioner
It's the air conditioner that gives your customers more for their money — gives you more features to sell.

the new 1955 Dearborn Fan-Type Evaporative Cooler
The Southwest's best known, most preferred evaporative cooler.

the new 1955 Dearborn Hobo Chef
The best looking, best performing barbecue equipment on the market at its amazingly low price.

the new 1955 Dearborn Blower-Type Evaporative Cooler
Brand new — two big blower-type models for high volume sales—packed with saleable features.

Dollar-Wise it's Dearborn for sales and profits the year 'round

Dearborn

1700 WEST COMMERCE, DALLAS, TEXAS

Because They're Built To Highest Quality Standards...

U 69

"PERFECTION"

Propane Systems are Easy To Sell...To Install...To Service!

Everywhere you look, you'll find a ready-made market for BS&B "PERFECTION" Propane Systems... and you'll find that "PERFECTION" gives you many important sales advantages to help you move them fast!

All 500 and 1,000 gallon sizes are equipped with ¾ in. excess flow valve for liquid withdrawal, and 1¼ in. bottom opening for greater liquid flow, if required. Sturdy lifting lugs are scientifically located for ease of handling. A new channel-type leg assures more even distribution of weight and greater strength.

Built to rigid U-69 and UL specifications, each "PERFECTION" Propane System is tested and inspected *thoroughly* during manufacture. Uniform X-ray controlled welds provide extra strength *plus* a smooth, neat appearance.

EFFICIENCY OVER 60 YEARS BS&B RELIABILITY

BS&B Unloading Rack

Stop awkward unloading... minimize fire danger! The BS&B Unloading Rack makes walking sure and easy. Needs only small space, with ladder or stairway on left side, right side or front as you order. Loading drop folds out of the way. Shipped knocked down, cut and marked for easy erection.

BLACK, SIVALLS & BRYSON, INC.

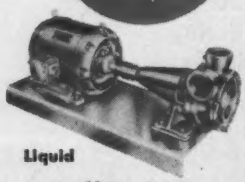
Propane Equipment Division
7500 East 12th Street Dept. 6-AB3 Kansas City 26, Missouri

in the standards will be subject to the review and approval of the committee of gases. The NFPA gases field engineer, Clark F. Jones, will continue to serve as secretary of the committee on gases and will also serve as secretary for the sectional committees.

The sectional committee on liquefied petroleum gas will have jurisdiction over the following: No. 52, L. P. gas piping and appliances in buildings; No. 58, liquefied petroleum gases; No. 59, L. P. gas in utility gas plants (joint jurisdiction with sectional committee on utility gas).

A drawing of the new A-P Controls Co. plant under construction in Nijmegen, Holland. The single-story structure will have 18,000 sq ft of floor space.

eliminate the guesswork in selecting your PUMP



Liquid

Vapor

You want a pump designed to do a specific job—not too large or too small for the work at hand. Corken's experience and engineering know how assures you the right pump for the right job! So eliminate the guesswork and select a Corken Good Pump—dependable performance, long life, quiet operation, simple in design, rugged in construction and it's leak proof!!

ASK YOUR DISTRIBUTOR OR PHONE, WIRE OR WRITE FOR INFORMATION

CORKEN'S

206 E. GRAND • OKLA. CITY

EASTERN OFFICE
935 MADISON AVE. • PLAINFIELD, N. J.

A-P Controls Constructs Holland Subsidiary

The first subsidiary plant of A-P Controls Corp. beyond the North American continent is being constructed at Nijmegen, Holland, with completion anticipated about December 1. The plant, with 18,000 sq ft of floor space and equipment, represents an investment of approximately $200,000. A-P Controls has a five-year lease with option to purchase.

Remy H. Ludwig, vice president in charge of foreign operations, will direct the activities of this plant in addition to the company's Canadian plant.

The Nijmegen operation will be a wholly-owned subsidiary known as A-P Controls Maatsechappij N. V. Initial employment of 25 is expected to rise eventually to 100.

American Society Group Elects Haines President

At its 61st annual meeting, held in Philadelphia, the American Society of Heating & Air Conditioning Engineers elected John E. Haines president.

Vice president of Minneapolis-Honeywell Regulator Co., Minneapolis, Mr. Haines served the society as first vice president during 1954 and held the office of second vice president in 1953.

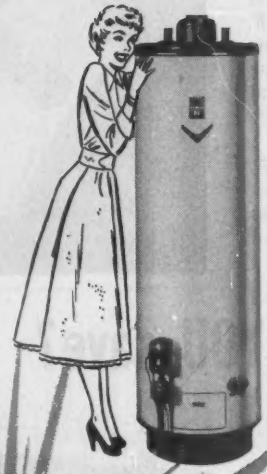
New Appointees To Aid California Civil Defense

R. E. Meeder, LPGA state director for California, has announced that in order to complete integration of the L. P. gas industry of the state into the over-all civil defense program, additional appointments have been made.

The individuals named will serve under the petroleum administrator of the state, to aid in matters of over-all policy affecting the industry in times of emergency.

F. L. Dunlap was appointed to

words like
"DAY & NIGHT *Jetglas*"
can increase your water heater profits 25%



Because the unsurpassed "quality story" of Jetglas makes it easy for you to sell top-grade water heaters at top-rate profits instead of competitive heaters at a cut-rate profit, if any. "Jetglas... rust-proof inside and out... outlasts two ordinary water heaters... costs less in the long run." These are words that make people buy—and make profits for you. Why sell less—when it pays to sell the best?

Magic Words GIVE YOU THE Midas Touch TURNING PROBLEMS INTO PROFITS

words like
"DAY & NIGHT Panelray"
make home heating easy to sell and profitable

Because it's the most famous wall heater in the world—fast, wonderful comfort anyone can afford.
Easy to sell, easy to install, and practically no service follow-ups—*ever*—to eat your profits.
It's the easiest way to get in the heating business—the surest way to make a heating profit *and keep it!*

Every day more dealers say... it pays to sell the best!

DAY & NIGHT
MANUFACTURERS OF AMERICA'S FINEST WATER HEATERS, HOME HEATING, AND AIR CONDITIONING EQUIPMENT
DAY & NIGHT, MONROVIA, CALIFORNIA

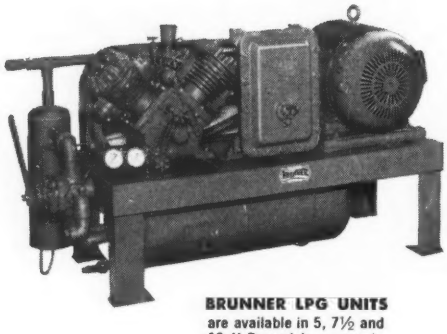
Write for the name of your nearest Day & Night distributor

serve with the state petroleum industry, civil defense coordinating group. His alternates are P. M. Shannon and T. S. Johansen. Leonard Andrews will serve with the subcommittee on transportation. His alternates are F. Morris Rowles and F. N. Rumbley. Basil P. Kantzer will serve with the subcommittee on manufacturing and supply. Alternates to Mr. Kantzer are yet to be appointed.

Civil defense committees of L. P. gas dealers were previously established for each of the 10 mutual aid regions in the state, at the request of civil defense authorities.

The Tavern club in Chicago was the site of Whirlpool Corp.'s third annual editorial review to introduce the 1955 line of home laundry appliances. Among those present were (left to right): William O. Dannhausen, advertising representative, Butane-Propane News; Dorothy C. Davis, home editor, Dallas Times-Herald; David J. Herman, utility representative, Whirlpool; and Orrin Eames, advertising representative, Electrical Dealer.

How much will YOU save?



BRUNNER LPG UNITS are available in 5, 7½ and 10 H.P. models — easy to install, easy to service.

...with a BRUNNER SINCE 1906 LP GAS TRANSFER UNIT

In bulk plants all over the country, operators report very sizeable gallonage savings with the use of Brunner LPG Transfer Units. The secret, of course, is that the Brunner Unit not only quickly transfers all liquid to the storage tank — but also removes and liquefies gas vapors in the tank car. With a simple turn of a valve, residual vapors in the tank car are removed down to recommended pressures of 15 to 20 lbs. per square inch. PAYS FOR ITSELF . . . the savings in time and gallons (up to 540 gallons from a 10,000-gallon tank car) soon pay for your Brunner Transfer Unit — keep on paying big dividends every time you use it.

WRITE FOR FREE BOOKLET *that shows how to set up a highly efficient "tank car to storage" transfer system — describes the many safety and long life features found in Brunner LPG Units.*

BRUNNER MANUFACTURING COMPANY
Dept. E-355, UTICA, N. Y., U.S.A.
The Brunner Co., Gainesville, Ga.
In Canada: Brunner Corp. (Canada) Ltd., Toronto, Ont.

BRUNNER ... *the name to look for on* INDUSTRIAL GAS COMPRESSORS

Fine Products Moves To Modern Building

Fine Products Co., manufacturer and distributor of L. P. gas equipment and materials, recently moved into its new home, a modern brick building just southwest of the Chicago city limits in Berwyn, Ill.

The new plant is more readily accessible to truck and auto, there is much more display space for new items, and there is quicker processing of "off-the-shelf" orders for immediate delivery.

Minneapolis-Moline Co. Releases Color Films

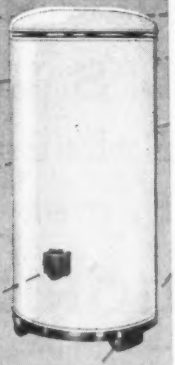
Two full-color films produced by Minneapolis-Moline are now being released to its farm machinery dealers in the United States, Canada, and in foreign countries for exhibitions beginning in January.

The complex role of the farmer in modern agriculture, and the revival of Greece as a bulwark of democracy in the Mediterranean are subjects of the films "The Businessman on the Farm" and "The Rising Star of Greece."

Consumer Research Key To Future Demands

By applying creative planning to consumer research, product designers are best able to predict what customers will want to buy in the future, according to Donald Dailey, vice

new water heater beauty... new ease of service... new Robertshaw-Grayson UNITROL® 200 WATER HEATER CONTROL



UNITROL 200 water heater control brings a new sales dimension to automatic gas water heaters – thanks to its beauty of design. Styled in a wide range of colors, reduced in size, Model 200 can be installed flush or concealed – is readily serviced should it be necessary. And its attractive aluminized snap-on cover adds real beauty to any water heater design.

With Robertshaw-Grayson Model 200, handsome is and handsome does – because under its exterior beauty is all the famed dependability of earlier UNITROL water heater controls that made them first choice of water heater manufacturers everywhere.

Ask your water heater manufacturer for full details or write:

MR. CONTROLS

Robertshaw-Fulton CONTROLS COMPANY

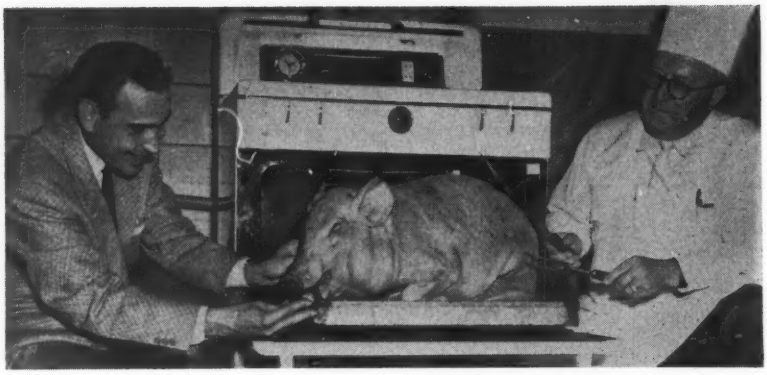
Grayson Controls Division, Long Beach, California

Robertshaw-Fulton Controls (Canada) Ltd., Toronto

president in charge of product planning for Servel Inc., Evansville, Ind.

Mr. Dailey was a featured speaker at the University of Michigan conference on consumer testing of product designs, which was held in Ann Arbor recently.

"I think of consumer research," Mr. Dailey said, "in terms of customer anticipation. Consumer research can be an academic accumulation of historical facts, or it can be a tool for creative enterprise. Consumer research must point a direction rather than spell out hard and fast rules."



Whole hog, weighing 70 lb, was roasted in this Magic Chef gas range oven when Wayne Goodman (left) sales supervisor of the Marion division, and George Leidholdt, supervisor of commercial sales of the Muncie, Anderson and Marion divisions, cooked an entire meal for 50 retail salesmen, supervisors, and officials of the Central Indiana Gas Co. The menu also included mashed potatoes, buttered asparagus, hot rolls, tossed salad, celery, radishes, green onions and hot coffee.

New Breidert L. S. Vent Flue Cap Exhausts Fumes HORIZONTALLY

No matter which way the wind blows!

DEMAND CERTIFIED RATINGS

The new Breidert was selected by the U. S. Government after extensive field tests for difficult service on important applications.

Insist on certified ratings based on directional wind tests at various vertical angles (as shown) when considering any ventilator. In that way you'll be sure of always buying the best ... the New Breidert L. S. Vent Flue Cap.

Breidert high capacity ratings were proved and certified by Smith Emery Co., Pacific Coast branch of Pittsburgh Testing Laboratories.

SEND FOR INSTALLATION GUIDE AND PRICE LIST

HORIZONTAL EXHAUST MEANS GREATER EFFICIENCY... NO DISCOLORATION. The new Breidert L. S. Vent Flue Cap, designed and built on proven aerodynamic principles, exhausts soot and fumes horizontally. Ordinary caps discharge downward which discolors the flue stack and roof. The new Breidert is especially suitable for venting gas heaters and other heating appliances because *it cannot backdraft where there is no interior negative pressure.*

STURDY CONSTRUCTION... LONGER LIFE Breidert L. S. Vent Flue Caps outperform cheaper caps and last years longer. This longer life is possible because Breidert uses *heavier gauge metal on all galvanized iron, aluminum, copper, and stainless steel* models. Sturdier construction, plus the attractive low silhouette of the new Breidert has increased demand, enabling us to reduce prices to within a few cents of competing but lower grade vent flue caps.

G. C. BREIDERT CO. Dept. C, P.O. Box 1190, San Fernando, California

REPRESENTATIVES IN PRINCIPAL CITIES OF THE U.S.

Two Management Schools Planned for Western Area

Two management schools have been planned for the West this summer. District No. 2 (Arizona, California, Nevada) will hold its school June 19-22 at the University of California, Berkeley, while those attending the District No. 1 (Idaho, Oregon, Washington) school will meet at the University of Oregon, Eugene. The date will be announced soon.

Norge Announces New Division Arrangement

Re-alignment of its sales organization into five geographical divisions is announced by Norge, a subsidiary of Borg-Warner Corp., Chicago. Norge formerly had two divisions.

The five new divisions are the Eastern, Southeastern, Midwestern, Southwestern, and Western, with headquarters at Philadelphia, Atlanta, Chicago, Dallas, and Los Angeles.

News Notes

General Controls Co. of Glendale, Calif., has moved its regional sales office and warehouse from Birmingham, Ala., to Atlanta, Ga.

The Arkansas Butane Dealers Association has worked out an agreement with the LPG Credit Corp. of Cleveland which will permit approved buyers to spread payments over a five-year period.

INSTALLMENT SELLING

Is the Backbone of Your Business

LPG CREDIT CORPORATION

. . . offers the only complete financing plans designed especially to fit today's needs of the LP-Gas Industry

1—*Retail Installment Financing* of sales to new customers. In one "package" the LPG Credit Corporation finances the appliances, the lease fee (when containers and systems are leased) or the sale price of the complete installation (when equipment is sold outright) and the initial sale of gas.

Today's retail selling practices require an "installment" program. National surveys prove that more than 80 per cent of all home appliances are sold on monthly payment terms. Our complete, low cost financing service has helped hundreds of dealers improve their sales volume . . . our specially designed plans can help you.

Value Plus. **As part of its services, LPG Credit Corporation offers a merchandising policy and a complete advertising and sales promotion program as effective sales tools, including showroom display material, newspaper ad mats, radio spot announcements, and direct mail booklets.**

Our Financing Plans also cover three other basic problems

2—*Floor Plan* for financing inventories of gas appliances and containers for resale.

3—*Financing of Cylinders and Tanks* leased to retail customers.

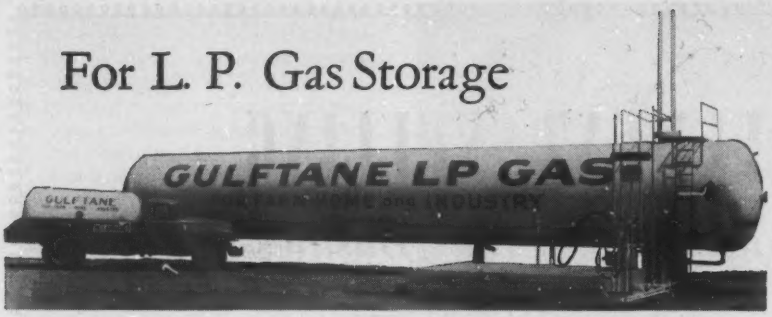
4—*Financing of Bulk Storage Tanks, Tank Trucks, and Transports.*

LPG *Inquiry on your company letterhead is invited*

LPG CREDIT CORPORATION

312 EAST 131ST STREET • CLEVELAND 8, OHIO

For L. P. Gas Storage



LEADING FIRMS PICK *NELSON*

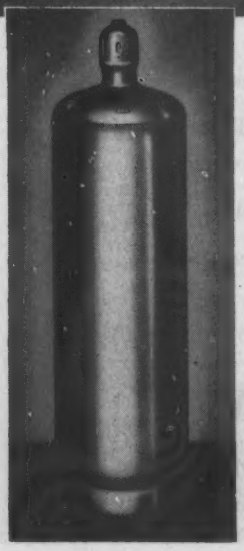
There are over 250 SYSTEM NELSON bulk plants for the storage of LP Gas and Anhydrous Ammonia located in 25 states. Leading bulk plant operators have found that it pays to deal with an organization that has the experience, equipment and engineering skill necessary to do a complete, top quality job. Take advantage of this extra value and service on your next storage problem. Contact us for a meeting with an experienced sales engineer.

THE SYSTEM NELSON

EDWARD S. NELSON, Ltd.
Dept. L-1
Clarksdale, Mississippi

THE LEADING NAME IN THE BULK STORAGE FIELD!

LIGHT...
BUT TOUGH AS THEY COME!



Harrisburg Lite-Weight Cylinders can't be beat when it comes to maximum safety and quality with minimum tare weight. Built to I.C.C. 4BA-240 . . . tested to 480 p.s.i., plus *Harrisburg's* own rigid strength and uniformity tests . . . they are used and approved by LP gas dealers and bulk plant operators wherever cylinders of superlative dependability are wanted. Write today for Lite-Weight Cylinder Catalog and current prices.

HSC-LP-2/54

101 YEARS IN PENNSYLVANIA'S CAPITAL
Harrisburg Steel
CORPORATION
HARRISBURG 4, PENNSYLVANIA

Worthington Corp. has moved its Detroit district office from 2824 E. Grand Blvd., to 13305 Puritan Ave.

Eclipse Fuel Engineering Co. of Rockford, Ill., announces that the E. C. Konkle Co. will handle distribution of Eclipse products in the entire state of Virginia.

Caloric Stove Corp., Topton, Pa., has announced the change of its corporate title to Caloric Appliance Corp., according to Julius Klein, president.

Anco Manufacturing & Supply Co. is moving from its location on Archer St. in Tulsa to a site at 21st St. and S. Union Ave., according to a recent announcement.

Janitrol distributors and district office representatives from the United States and Canada met in Columbus, Ohio, for a four-day sales conference recently, which included introduction of new lines of heating and cooling equipment, a presentation of advertising and sales promotion programs and a review of distribution problems.

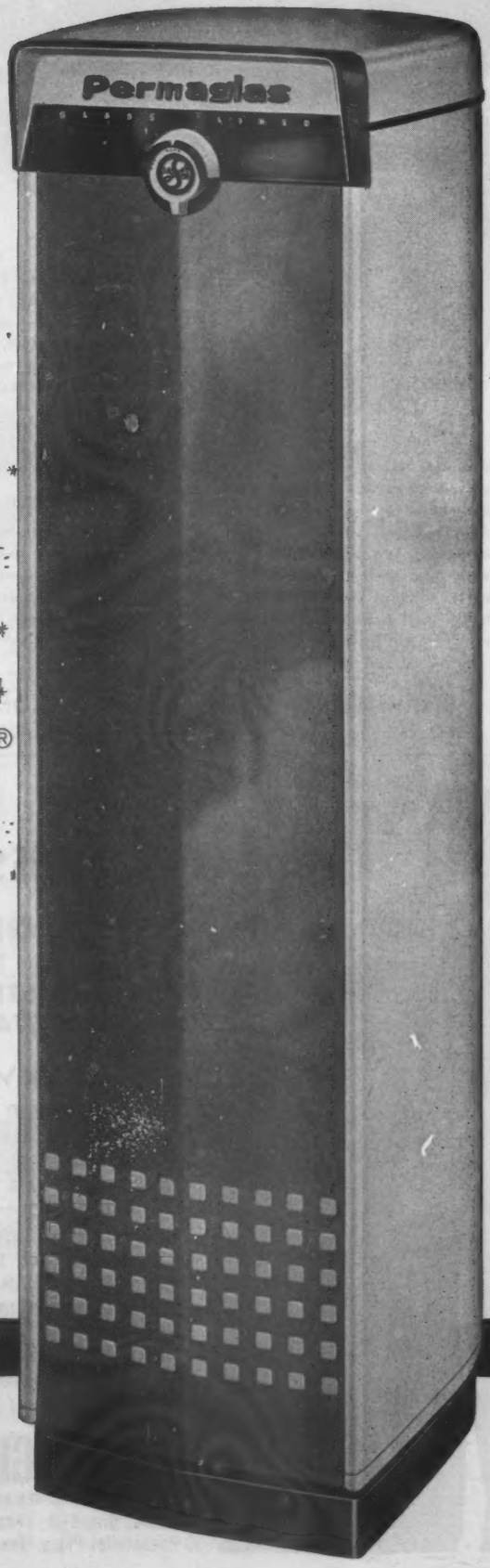
A representative line of American-Standard hot water heating and air conditioning products was featured at the International Heating & Ventilating exposition in Philadelphia.

In response to the recognition of the advantages of L. P. gas for industrial and domestic use, Daido Kogyo Kaisha Ltd. of Osaka, Japan, has recently started a propane business.

Borg-Warner Corp. through its subsidiary, Borg-Warner Acceptance Corp., will institute consumer financing of Norge appliances in six southwestern states. A BWAC branch office is being established in Dallas.

Plans for Magic Chef's drive for increased sales in 1955 were revealed to over 100 of the company's salesmen in a two-day sales meeting in St. Louis. Magic Chef will use a new approach in 1955 designed to capture bigger dollar volumes in its four major lines, gas ranges, electric ranges, gas and oil space heaters, and commercial cooking equipment.

The corporate name of the Texas-Empire Pipe Line, known for 25 years as the builder of the first pipeline of its kind, has passed out of existence. The name is now Texaco-Cities Service Pipe Line Co.



NOW...

the water heater that revolutionized an industry does it again...

Permaglas®

America's leading glass-lined water heater

Now... America's *first* stylized water heater—*in color*.

Plus... America's *first* "Eye-Hi" temperature control.

Plus... famous exclusive *HEETWALL* design—*and* higher inputs.

And... the *only* glass-lined tank proved by over 2,500,000 families.

All this in the *most accepted, most popular,* glass-lined water heater in the industry!

A.O.Smith

Buyers take one look and exclaim: "There's the heater we want." Thermolaire satisfies the customer's need for beauty and comfort. They like its looks and they like what it does—an efficient, serviceable, healthful heater.

Thermolaire

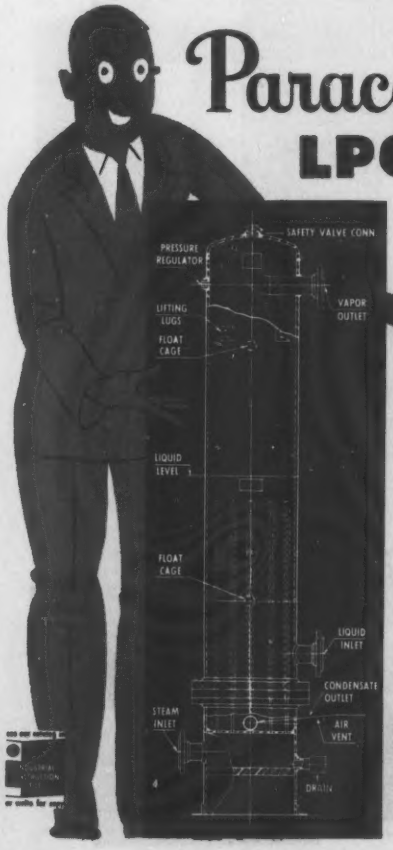
Complete line of vented and unvented circulators, radiant heaters and bathroom heaters. All AGA approved. Radiants interchangeable, cast iron burners with interior baffle and raised ports, chrome hearths, interior baffled for cooler cabinet. Phone or write for prices and details.

WILL BOOST YOUR SALES

Your first stock of Thermolaire gas heaters will give your sales curve a jolt and turn it upward. The styling and design are extra attractive. The soft, mellow copper-tone baked enamel finish harmonizes with other furnishings.

BIRMINGHAM STOVE & RANGE COMPANY

Builders of Fine Stoves For Over 50 Years — Birmingham, Alabama, U.S.A.



Paracoil SERIES 48E
LPG vaporizers
(STEAM TYPE)

FOR INDUSTRIAL AND UTILITY INSTALLATIONS

CHECK ✓ These Points of Proven Superiority...

- ☐ HIGH OUTPUT CAPACITY IN MINIMUM FLOOR SPACE
- ☐ NON-FREEZING, FAST DRAINING CONDENSATE SYSTEM
- ☐ OPERATES UNDER AUTOMATIC CONTROL
- ☐ ENTIRELY SAFE—NO OPEN FLAMES—USES LOW PRESSURE STEAM
- ☐ STANDARD PRODUCTION MODELS TO 6000 G.P.H.

DESIGN: ASME STAMPED, PAR U-69, N.B.F.U. PAMPHLET 58

Write for additional data and prices.

DAVIS ENGINEERING
CORPORATION
1058 East Grand St., Elizabeth 4, New Jersey
30 Rockefeller Plaza, New York 20, New York

Establishment of a new branch sales and engineering service office in Hammond, Ind., has been announced by Minneapolis-Honeywell Regulator Co. O. V. Spousta will manage the new office.

General Water Heater Corp. has leased a 12,000 sq ft plant in North Hollywood, Calif., where it will start making a complete line of wall and forced-air furnaces.

Ferrell Butane Gas Co., Atchison, Kan., has completed incorporation procedures with an authorized capitalization of $150,000. The company is now known as A. C. Ferrell Gas Corp.

Sunbeam Air Conditioner division of American Radiator & Standard Sanitary Corp., Elyria, Ohio, announces reduced prices on Sunbeam summer and winter air conditioning units. Reductions in summer cooling equipment range up to 21% per unit and prices on winter air conditioners reflect decreases up to 11%.

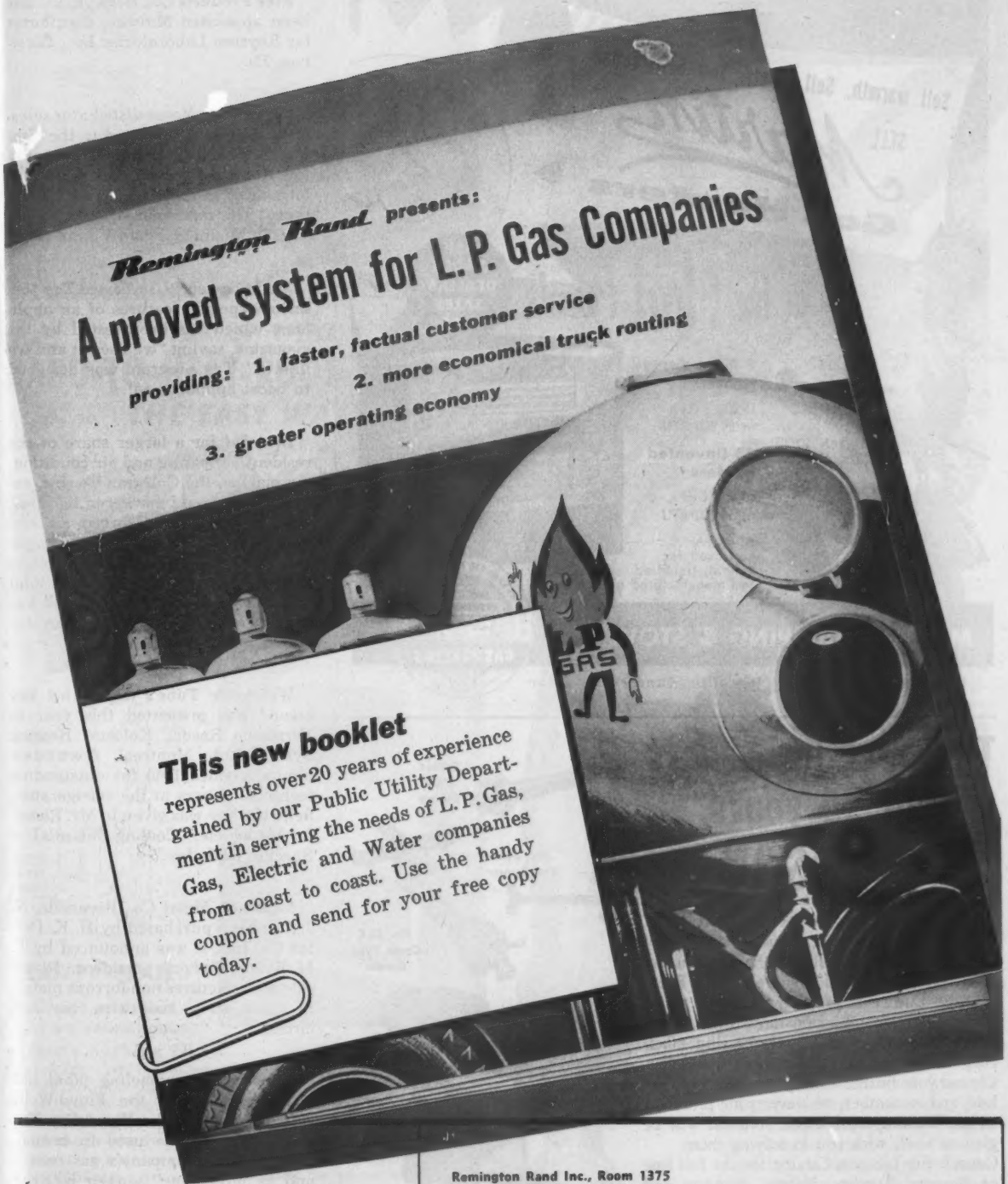
The 27th annual sales meeting of the South Atlantic distributors of Pyrofax Gas Corp. was held recently at the Sheraton-Belvedere hotel in Baltimore. Forty-nine service pins were distributed.

Burden-Bryant Co. of Springfield, Mass., has been named distributor for Servel gas and electric appliances. The company will serve Berkshire, Franklin, Hampden and Hampshire counties in western Massachusetts and the entire state of Vermont.

A new assembly plant has been opened in Independence, Iowa, by Micro Switch of Freeport, Ill., to expand its production of mercury switches and snap-acting switch products. Micro Switch is a division of Minneapolis-Honeywell Regulator Co.

The 1955 line of nine different Whirlpool home laundry appliances was inveiled in the Sheraton hotel, Chicago, at a national convention of Whirlpool distributors. The line consists of four automatic washing machines, three automatic clothes dryers, a semi-automatic wringer-type washer and an automatic ironer.

A new mill depot has been opened to serve the customers of Wolverine Tube, division of Calumet & Hecla Inc., in the Minneapolis area. This depot will stock copper water tube, automotive tube and refrigeration tube.


Remington Rand presents:
A proved system for L.P. Gas Companies
providing: 1. faster, factual customer service
2. more economical truck routing
3. greater operating economy
This new booklet
represents over 20 years of experience gained by our Public Utility Department in serving the needs of L.P. Gas, Electric and Water companies from coast to coast. Use the handy coupon and send for your free copy today.
L P GAS

Remington Rand

Remington Rand Inc., Room 1375
315 Fourth Avenue, New York 10

Gentlemen:
Please furnish me with a copy of X1306

Name_____

Firm_____

Address_____

City_____ Zone____ State_____

The best in burners for 50 years

JOHNSON

There's a Johnson Burner for every need. Steam tables, urns, vats, ovens — any type of equipment requiring a burner. And you can count on Johnson for highest quality. Every Johnson Burner is properly designed to assure perfect combustion and high flame temperature. This gives top heating efficiency *and* more heat for every fuel dollar. Choose your burner from Johnson's complete line, and remember, whatever your problems in gas burning equipment, Johnson will be glad to work with you in solving them. Consult the Johnson Catalog for the full line of Burners, Torches, Valves, Furnaces and Blowers.

Johnson Gas Appliance Company
597 E Avenue, N.E., Cedar Rapids, Iowa

IF IT BURNS GAS LOOK TO JOHNSON

JOHNSON LP-GAS EQUIPMENT

Fine Products Co., Berwyn, Ill., has been appointed Midwest distributor for Royston Laboratories Inc., Blawnox, Pa.

Forty-three Norge distributor salesmen have been admitted to the Viking "200" club, top honorary society for Norge salesmen, for sales performances in the 1954 "Miami Marathon." The men won seven-day holidays in Miami and gold Viking rings.

McCall's new "Use-Tested Tag" describes specific features of an appliance which has been tested by the magazine, saying "we used it and we like it." Tag program was designed to boost appliance sales.

In a bid for a larger share of the residential heating and air conditioning market, the Coleman Co. Inc. announced it would market in 1955 new lines of gas and oil-forced air furnaces, 11 new cooling units and major improvements in gas water heaters and oil and gas space heaters. A total of 54 new and improved models was previewed recently by Coleman distributors.

Wolverine Tube's diamond key award was presented this year to Ferruccio Rasori, Kolostat Heating System Ltd., Montreal. Awarded annually since 1940 for outstanding technical papers in the refrigeration field, the key was given to Mr. Rasori for his article, "Cooling Potential vs Specific Enthalpy."

Riverside Metal Co., Riverside, N. J., has been purchased by H. K. Porter Co. Inc., it was announced by T. M. Evans, Porter's president. Riverside manufactures non-ferrous metals in sheet, strip, rod, wire, bar and circle.

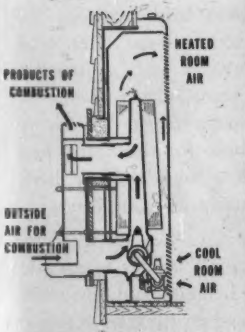
A porcelain enameling plant has been installed by the Floyd-Wells Co., division of John Wood Co. The new plant will be used to enamel parts for the company's gas ranges and to "glass line" water heater tanks.

There were 27 winners in a nationwide essay and jingle contest on "planned meter retirement programs in the gas industry" sponsored by Rockwell Manufacturing Co. The year-long contest open to all persons employed in the gas industry, was designed to "stimulate thinking about gas meter repair practices."

PICK UP THAT
HARD-TO-HEAT-ROOM PROFIT
THE EASY WAY!

SAF-AIRE GAS HEATING

Heat without hazard! Saf-Aire burns gas in a ceramic lined chamber completely sealed from the room air being heated



"SAFETY-SEALED"

Heats one room or an entire house

There's nothing like Saf-Aire for heating added rooms—hard-to-heat rooms—enclosed porches—garages—workshops—bathrooms—attic apartments—complete homes. Amazingly compact and styled to harmonize with any room decoration.

CLEANER, SAFER, EASIER TO INSTALL

- Uses only outside air for combustion—no stuffy rooms
- Easily installed through any type wall
- No chimney required—combustion products are vented to the outside, can't enter the room
- No ducts or electricity needed
- "Zone Controlled" warmth for every room
- Costs less to install and maintain
- Burns all gases, including L.P.
- Ceramic lined heat exchanger for long life

SW

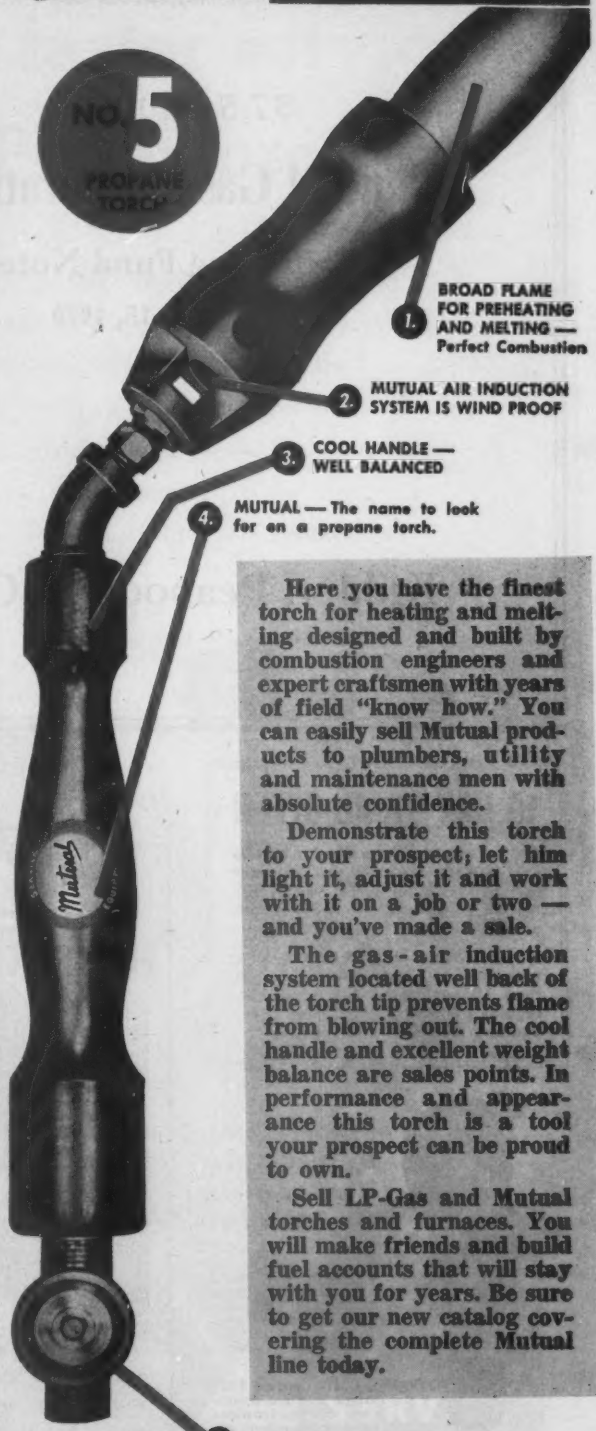
SEND FOR LITERATURE

STEWART-WARNER

U. S. MACHINE DIVISION—Dept. AT-355, Lebanon, Indiana

Mutual YOUR FIRST CHOICE

NO. 5 PROPANE TORCH



1. **BROAD FLAME FOR PREHEATING AND MELTING — Perfect Combustion**
2. **MUTUAL AIR INDUCTION SYSTEM IS WIND PROOF**
3. **COOL HANDLE — WELL BALANCED**
4. **MUTUAL — The name to look for on a propane torch.**
5. **FINGERTIP CONTROL**

Here you have the finest torch for heating and melting designed and built by combustion engineers and expert craftsmen with years of field "know how." You can easily sell Mutual products to plumbers, utility and maintenance men with absolute confidence.

Demonstrate this torch to your prospect; let him light it, adjust it and work with it on a job or two — and you've made a sale.

The gas-air induction system located well back of the torch tip prevents flame from blowing out. The cool handle and excellent weight balance are sales points. In performance and appearance this torch is a tool your prospect can be proud to own.

Sell LP-Gas and Mutual torches and furnaces. You will make friends and build fuel accounts that will stay with you for years. Be sure to get our new catalog covering the complete Mutual line today.

Mutual

Member LPGA

LIQUID GAS EQUIPMENT CO., Inc.

17129 South Broadway, Gardena, California

Arrangements have been made through the undersigned for the sale of these securities privately for investment. They have not been and are not being offered for sale to the public. This announcement appears as a matter of record only.

$7,500,000

General Gas Corporation

4¼% Sinking Fund Notes

Due January 15, 1970

Kidder, Peabody & Co.

January 28, 1955.

10 DAY TRIAL OFFER

Try the Martin Tube Bender on the job for 10 days. If you are not satisfied with its performance, return it to us and we will not bill you.

If you decide its the best bender you ever used and keep it longer than 10 days, we will bill you the regular price of $19.50 plus postage and insurance charges.

BEND TUBING EVENLY in close quarters with little effort

Dimensions: 9½ x 3½ x 3½ — weight 4½ lbs. Two sizes handle all jobs: #5 bends ⅜" and ½" o.d. soft tubing, #5A bends ½" and ⅝" o.d. soft tubing. Each without roll changes!

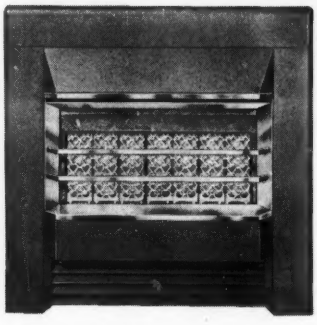
All bends are on 1¾" radius and are practically distortionless. Gear arrangement operated by rachet lever rolls the bend in the tube easily, makes bends in either direction by turning tool over and operating from other side. Sturdy — compact.

Write today for details on our free trial offer.

W. H. MARTIN Tube Benders
Box 692, Owensboro, Kentucky

ADAMS

FIREPLACE INSERTS



Gives extra comfort with modern Fireside Styling. Clean and economical way to remodel vented fireplaces.

Write for Your Catalog

ADAMS BROS. MFG. CO., INC.
Established 1898
1500 NORTH AVE., W. PITTSBURGH 33, PA.

Portable Compressor Cuts Service Time For Garden City Gas

THE service staff of the Garden City Gas Service, Santa Maria, Calif., is saving a great deal of time in maintenance of customer tanks through the use of a small portable compressor powered by a gasoline-type motor which was made for them by Don V. Hasty, district manager, Petrolane Ltd., parent company of Garden City Gas.

The compressor was made at very little cost for materials and parts by using discarded units taken from used appliances that had been traded in on new ones. The major units of the compressor consist of a small washing machine engine originally operated on gasoline, a discarded refrigerator compressor and a small pressure tank.

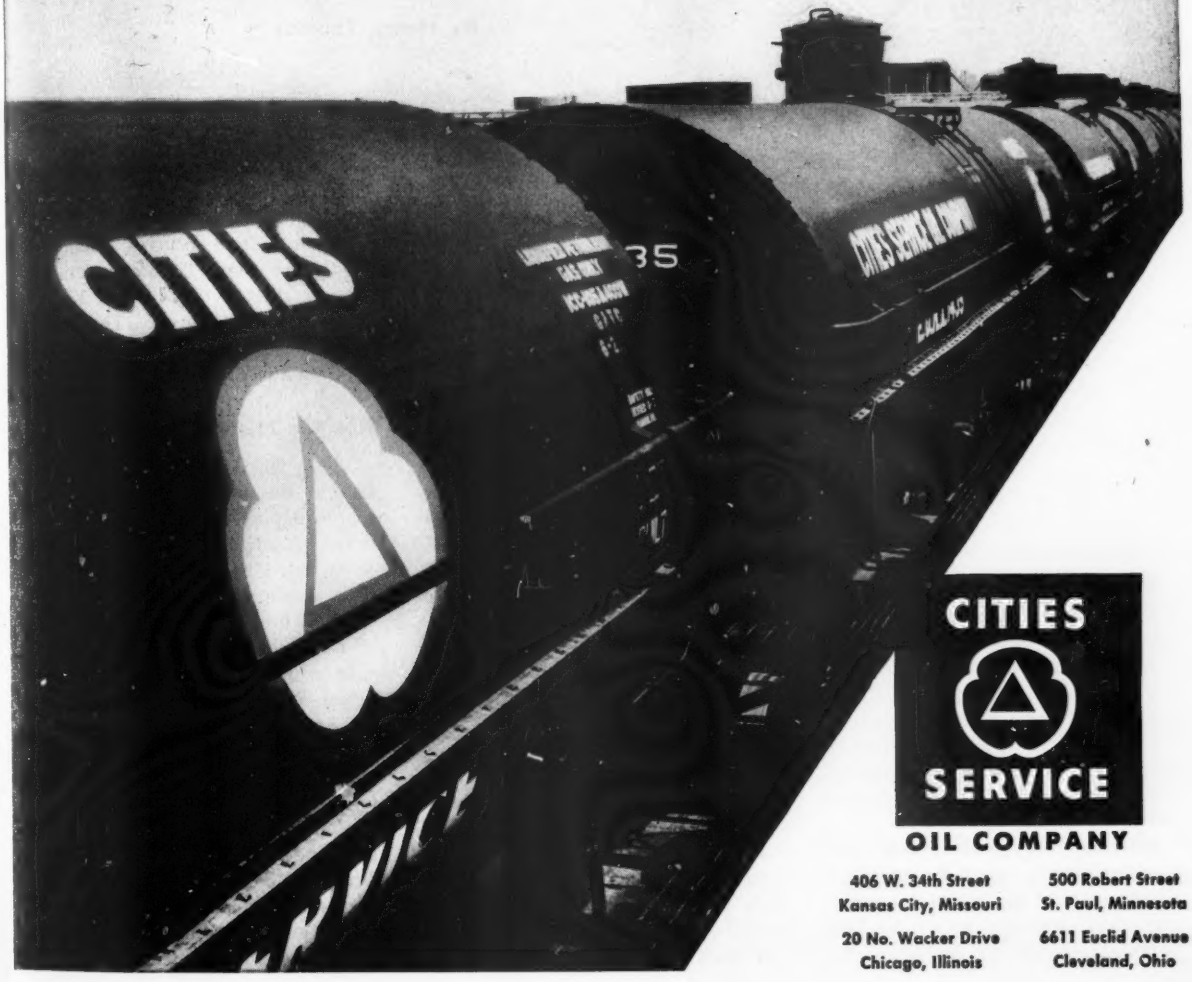
Using some ¾-in. pipe for the base and a small assortment of bolts, pulleys, V-belt, a pressure gauge and some odds and ends of tubing and fittings, Mr. Hasty welded a base for the outfit, and put the units together in a little over two hours working time.

One man can easily lift the compressor into the service truck and he then has his independent source of compressed air for the operation of the spray guns. This has eliminated the time formerly required to string up an extension cord from the customer's electric light circuit, and has completely overcome the disadvantage formerly experienced when the customer was not at home during the serviceman's first call for the purpose of painting the customer tank.

Now it is immaterial whether the customer is at home or not. The serviceman merely cranks up the little engine and starts to paint. Use of the compressor has saved many hours of the serviceman's time each month since it was put into service.

Right track to faster service, greater LP-Gas profits

Here is part of the greatly enlarged, self-owned and operated Cities Service tank car fleet . . . one of the reasons why Cities Service LP-Gas customers always enjoy fast, dependable delivery. Equally important are the 19 modern producing plants and storage wells that assure consistently highest product quality . . . quality that creates satisfied consumers, greater profits for distributors of Cities Service LP-Gas. To learn all the facts, contact your nearest Cities Service office.



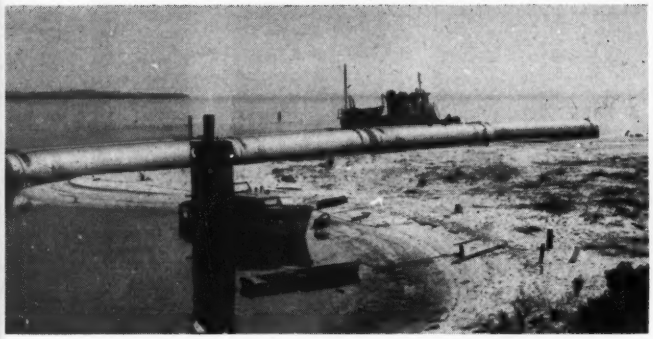
CITIES SERVICE
OIL COMPANY

406 W. 34th Street
Kansas City, Missouri

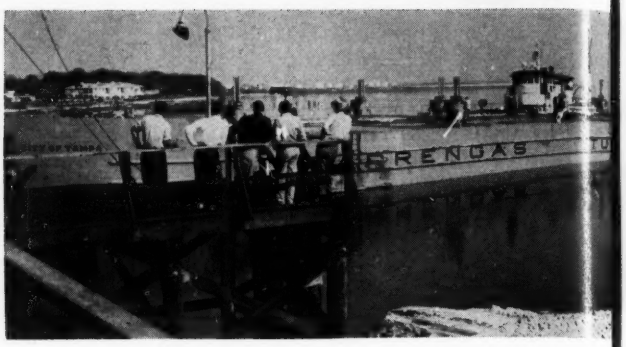
500 Robert Street
St. Paul, Minnesota

20 No. Wacker Drive
Chicago, Illinois

6611 Euclid Avenue
Cleveland, Ohio



Eight storage tanks, belonging to Warren Petroleum, nestle along shore after being floated to Pensacola from Mobile, Ala.



The terminal completed, Warren's seagoing barge, City of Tampa, arrives in Pensacola with the first shipment of L. P. gas.

Warren Petroleum Erects 900,000-Gal. LPG Terminal in Pensacola

By Henry Thomas

A 900,000-GAL. capacity L. P. gas terminal, erected by Warren Petroleum Corp. of Tulsa, was opened in December, 1954, in Florida. The terminal, which will supply LPG to retailers in the area, was built on 25 acres of land known as Brent Island, bounded on three sides by the blue waters of Pensacola bay.

The picturesque piece of property had remained idle for many years until Warren selected it as the site of its third liquefied petroleum gas storage terminal in Florida.

Property Problems

The purchase of the property wasn't simple. The property records were clouded and there was some question as to whether the state had a claim to the island. As a result, the 1953 Florida legislature passed an act in which the state relinquished any and all claims to the property, paving the way for the construction of the terminal.

After countless yards of sand were dredged from the bay bottom to build up the level of the island, huge concrete cradles were erected to hold the 30,000-gal. capacity storage tanks.

BPN field report

Thirty of these tanks, each weighing some 40 tons, were floated to Pensacola from Mobile. They are 70 ft long, about 10 ft in diameter and are constructed of 1-in. thick steel.

The terminal has been in operation for two months, and during this time, business has been "very good," according to Lee Goodrich, terminal manager.

Allen S. James of the Warren public relations department, said the company has set its sights on the movement of 6 million gal. of L. P. gas annually through the Pensacola terminal—enough to meet the needs of 10,000 homes.

Warren is bringing in L. P. gas by barge from its storage terminal near Houston for distribution to affiliated retailers in the Pensacola area. Pensacola L. P. gas retailers previously had been either trucking the product into Pensacola from the Mobile terminal or bringing it by rail from the oil fields of Texas.

The specially constructed barges carrying ½ million gal. of LPG can make the trip from Houston to Pensacola in four to six days, depending on the weather. This is faster than by rail, since it takes about 12 days to bring in a tank car. The barges also carry about 50 times as much LPG as a railroad tank car.

Regular Trips Slated

Three 200-ft barges, designed for use in the intracoastal canal, will make regular trips to Pensacola terminal. A larger, seagoing barge also is expected to stop occasionally. In fact, a seagoing barge, the City of Tampa, brought the first gas shipment to the terminal in December.

In addition to the Pensacola terminal, Warren also owns storage facilities in two other Florida cities. A 1.2 million-gal. capacity terminal was opened in Tampa a year ago, while a terminal of the same capacity went into operation in the Everglades, near Ft. Lauderdale, last October. In addition, the company designed and supervised the construction of a terminal, owned by the West Florida Gas Co., at Panama City.

Butane-Propane

POWER SECTION

INSTALLATION • CARBURETION • SERVICING

Center of operations of Chicagomobile Power Corp. includes filling station with pumps for both propane and gasoline and 30,000-gal. storage tanks.

For a story about Chicagomobile and its taxicab conversions, turn to page 149.

Foremost producer of carburetors and fuel filters for over 40 years...

ZENITH

announces a new, improved LP-Gas fuel system

factory adjusted and calibrated for popular engines

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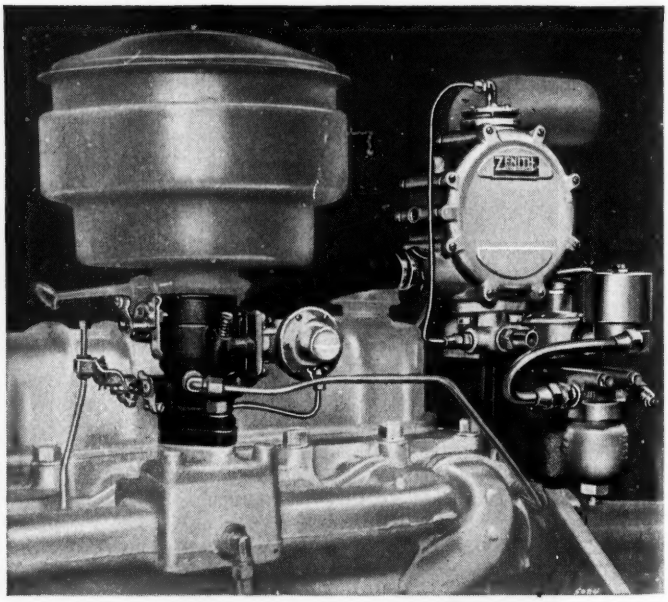

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Chicagomobile uses taxi conversion kit. Mounted in engine recess are a heat exchanger and a carburetor adapter. These special conversions allow taxi operation on either propane or gasoline by flipping a switch.

Pay-As-You-Go Plan Helps Chicagomobile Convert Independent Taxicabs to L.P. gas

By William E. Kramer

Three years ago Chicagomobile started in the taxicab conversion business. Today it grosses over $30,000 a month. Its success story is based on a plan whereby the owner of the converted cab pays for the conversion from the savings in fuel cost resulting from the use of L. P. gas.

A COMBINATION pay-as-you-go and let-it-pay-for-itself plan is currently grossing more than $30,000 a month for the Chicagomobile Power Corp., started a little over three years ago in Chicago by three enterprising taxicab drivers.

Dick Trieber, John Mauger, and George Hall, who initiated Chicagomobile, were up against a tough market from the very beginning when they decided to sell propane conversions for taxicabs. "We chose the taxicab market because it was the only one we knew anything about," says Dick Trieber.

And then there's another advantage: taxicabs provide a steady, year-round load without the winter peak and summer famine common to many other loads.

The three men had a lot of sales ammunition that they thought would be helpful in selling propane carburetion to taxicab owners. In the first place propane sells for 20 cents a gallon in Chicago, compared with 28 cents for gasoline. Even more important are the savings in maintenance, oil, spark plugs, etc. The average taxicab operated on gasoline needs a complete overhaul every 45,-

000 to 55,000 miles. On propane the cabs average 100,000 miles between overhauls. Oil costs are cut 80%, while spark plug costs are cut in half. There are comparable savings in carburetor overhauls and fuel pump repairs.

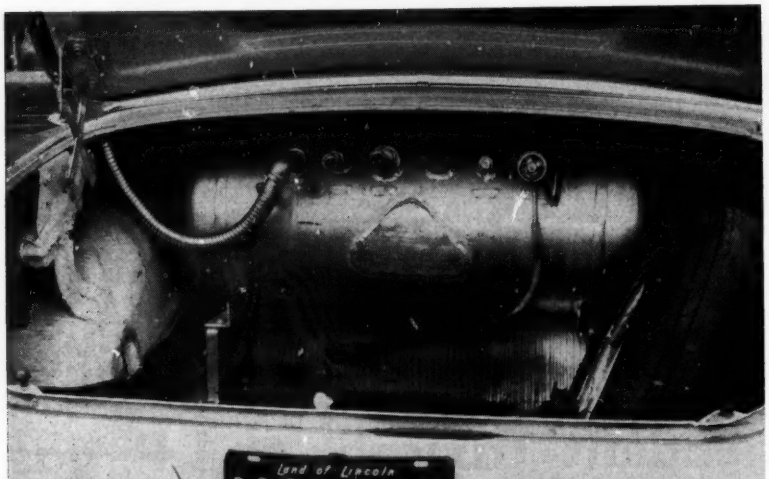
On the surface it would seem that these facts would make a convincing sales story to tell the 800 independent taxicab owners in Chicago. However, the three men found that it took more than their convincing sales story to sell a $295 conversion to a cab driver who had never heard of propane before.

So Chicagomobile devised a unique plan to offer to its prospects. If a taxicab driver couldn't or didn't want to pay cash for his carburetion conversion (which was almost invariably the case), then Chicagomoble arranged a loan for him through a local lending agency. There was no down payment. The loan was financed over a period of months agreed upon between Chicagomobile and the driver.

The cab driver paying for his conversion equipment on time was charged 26 cents per gallon for propane, 2 cents less than for gasoline and 6 cents more than the retail price of propane. The overcharge was credited to the driver's special account. At the end of the month Chicagomobile totaled the accounts and made out a check for the driver to the loan company for the total amount of the overcharge. The amount, give or take a few cents, was sufficient to take care of the monthly payments on the conversion equipment.

With this plan Mr. Trieber and his partners have sold conversions for more than 200 cabs. And new business is coming to them at the rate of 10 new taxi conversions per month. The men expect to have virtually all of Chicago's independent taxicabs operating on propane in a couple of years.

When Chicagomobile was formed in 1951 there wasn't any place in Chicago where a cab driver could buy propane. So the three men built a fuel station themselves from plans drawn up by George Grist, regional sales manager of Phillips Petroleum



First step in a fuel tank installation is to seal off the trunk from the passenger compartment. This is done with canvas or burlap and undercoating compound. Also, holes are drilled in bottom of tire well to permit fuel lost when disconnecting hose to escape. Fuel tank safety valve is vented directly to outside atmosphere.

Operation of this station soon revealed a most important fact regarding the business: in selling a carburetor conversion, there is one profit, and then it is all over. Selling the fuel needed by the converted vehicle provides a continuing profit, which increases steadily as additional vehicles are converted.

In addition to fueling facilities, it was necessary for Chicagomobile to set up a shop to convert and service propane units. Converting a cab to propane takes one full day in the Chicagomobile shop. All trunk compartments are sealed off from the passenger compartment to prevent leakage of gas into the cab itself. Also, safety valves are vented through the trunk top to outside air. Holes bored in the tire well allow any gas that escapes when filling the tank to flow out of the trunk compartment by gravity.

When a cab is replaced after about 120,000 miles or so (depending on the driver), Chicagomobile takes the conversion equipment out of the old cab and installs it in the new one. The charge for this is $40.

Chicagomobile strongly recommends simultaneous installation of an electric fuel pump with conversions, in place of the fuel pump installed as standard equipment on the cab at the factory. The reason for this is that taxicabs are converted with adapters rather than with complete conversion kits. This allows them to operate on gasoline at the flick of a switch in an emergency when propane is not available, such as on a highway between cities.

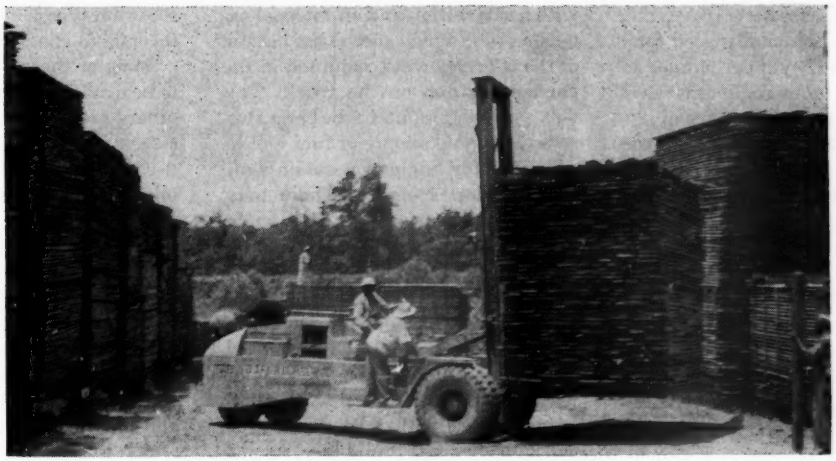
In some instances, Chicagomobile has found, driving a cab 25,000 miles or so on propane, by-passing the regular fuel pump, has made the standard fuel pump unserviceable. This has resulted in several costly breakdowns. These failures are completely eliminated by substitution of the electric fuel pump. Additional cost to the driver is $15. But Mr. Trieber points out emphatically, "It's well worth it."

Since the day Chicagomobile was formed it has not stopped growing. It soon had to abandon the small fuel and pumping station it started with. Now it services cabs on a 24-hour basis from two large, well-equipped service stations. Plans call for setting up a minimum of two more stations as soon as the city council works out its new L. P. gas codes.

The company has also branched out into the bottlegas business, which now accounts for about 16% of the total load. The company's newest venture is converting fork lifts.

While the men who started Chicagomobile are proud of the way it has grown, they are prouder of the fact that they don't step on the toes of any competition.

"We make our own load," Mr. Trieber says. "We've never taken a single customer from a competitor. We don't have to and we don't believe in operating that way. There's more than enough business to go around." ■



By using L. P. gas in yard trucks, lumber companies can avoid the fire hazards from dripping gasoline.

How To Meet the Problems of Refueling An LPG-Powered Fork Lift Truck

By Carl Abell • Editor

In concluding a three part series of articles on the use of L. P. gas for fork lift trucks, Editor Carl Abell discusses methods of refueling, essential equipment, types of tanks, methods of carburetion and the importance of safety.

ONE OF the problems that must be met in every LPG installation on industrial trucks is the matter of how the refueling is to be done. These arrangements must meet the approval of the operator's insurance carrier and the local and state fire authorities. The details should be worked out and approved before the installation takes place.

There are two commonly used methods of refueling: (1) filling the truck service tank direct from the customer's bulk storage, and (2) interchanging filled containers for empties.

Filling From Bulk Desirable

The former method is desirable because of the lower cost of purchasing and handling the fuel in bulk, but in a high percentage of cases it is not possible because the operator does not have enough vacant ground space available to make a safe and acceptable bulk installation. It is nearly always possible to find an approved location where a reserve supply of filled containers holding from 5 to 7 gal. may be kept.

Quantity users can always make arrangements to have spare cylinders refilled in batches by local LPG dealers. With the further development of the market we may expect that in the near future the more concentrated industrial areas will have daily pickup-and-delivery service which will solve the fuel supply problem for the numerous operators of small fleets. Such service is already available in Los Angeles, and possibly also in other centers.

The fuel containers on the trucks should be selected to fit the method of refueling. The ASME-type vehicle tank, comparable to those used on tractors and highway vehicles, and built to the same specifications except for size, is practical, and many operators consider it the most desirable for operations where the fuel is handled in bulk from the company's own storage tank. When in need of fuel, the truck is driven to the dispenser, and filled exactly as highway vehicle fuel tanks are filled in service stations.

Each Tank Needs a Gauge

Each tank needs a variable liquid-level gauge. The use of the magnetic-type, constant-reading gauge is acceptable, but the rotary tube gauge, which must vent fuel to atmosphere to give a reading, is strictly prohibited for indoor use.

For operations where the fuel must be brought to the vehicles in filled

containers from an outside filling point, the most commonly used tank is a modified ICC cylinder similar to the 20-lb containers commonly used on house trailers. The special requirements of the fuel system on the industrial and fork trucks make it necessary for these fuel containers to be manufactured complete at the cylinder factory. Alterations of standard house-trailer bottles are not permissible, and neither the house-trailer bottle nor the industrial-truck cylinder should ever be used for any other type of service than that for which it was originally intended.

Difference in Cylinders

In order that they may be identified, here are the differences: the house-trailer bottle generally has a single opening in the top; it never has more than two. The central opening has a valve with a side outlet, and somewhere else on the valve body there is a small pressure relief valve. If there is a second opening, it is either plugged or fitted with a fixed liquid-level gauge, commonly referred to as a "10% valve." The central valve of this cylinder has no extension tube inside the cylinder. It draws vapor only, and is designed for the operation of appliances using vaporized fuel. It will not supply vaporized fuel fast enough for satisfactory operation of the engine in an industrial truck.

The industrial-truck tank, which is made from the same shell that is used in the trailer bottle (for production economy), also has a large service valve generally located in the center, with a side outlet, and an internal extension tube which goes to the bottom of the cylinder when mounted in the correct position on the truck. This valve delivers liquid to the regulator, so an adequate supply of fuel will be available for engine operation until the cylinder is empty. There must also be a pressure relief valve, so designed that it communicates with the vapor space inside the container. This is mounted in a separate hole 2 or 3 in. to the side of the main valve. In a third hole there will be a fixed liquid-level gauge like the one sometimes used in the trailer bottle. A fourth hole is fitted with a magnetic-type, constant-reading, liquid-level gauge, which enables the driver to keep track of the amount of fuel remaining in his tank.

All of the above valves and fittings are required for safe operation of the fuel system. In addition there may be a separate filler valve in a fifth opening. This is demanded by some operators to facilitate quick filling, although the cylinder may be filled at a somewhat slower rate through the outlet valve, in the same manner that trailer bottles and the larger house cylinders are filled.

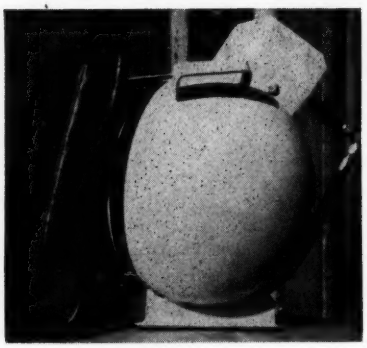
Difference in Time

This difference in charging rate is somewhat overcome by the difference in time required to make the filling connection. The changeable cylinders are almost always equipped with a quick-type coupling (UL-approved) which can be connected almost instantly with the charging line, whereas the special filler valve is a screw-on type which requires several seconds to connect and disconnect.

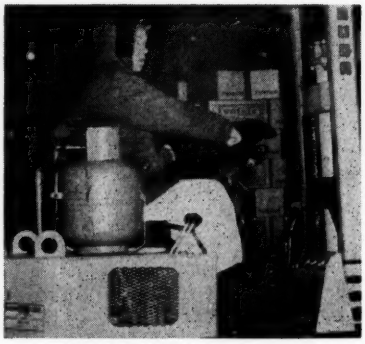
Some of these containers are built to be used in the upright position, and others are designed to mount on the side. The side-mount type is keyed so it will only lie flush on the mount in one position, thus insuring that the outlet line will be at the bottom and the vapor connection for the pressure relief valve will be in the vapor space at the top. The magnetic gauge will also be in the only position in which it can give a correct reading. Obviously, these two types of fuel containers are not interchangeable, and must be used in the position for which they were designed.

There is need for standardization of these motor-fuel tanks. This need becomes particularly critical as the number of operators who must have their cylinders refilled at outside stations increases. This method of operation requires that the industrial-truck owner provide a sufficient number of spare cylinders to keep his trucks in operation. With numerous operators sending cylinders of varying design to the filling plant, the possibility of returning a horizontal-mount cylinder to a customer who uses vertical-mount cylinders, or vice versa, becomes quite likely. This might only be an irritating mistake, but there is a chance that a not-too-alert employe will connect the cylinder on a truck. The fact that the gauge reading would be completely erroneous is not too important; what would really matter is that in case the cylinder were exposed to excessive heat, the pressure-relief valve would discharge liquid instead of vapor,

Fork Lift Tanks and Mountings



ASME Type



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which would probably spread the already existing fire rather badly. If all these cylinders were standardized, so all operators' tanks were interchangeable, such errors could not occur.

This leads to the question, on what design should fuel industry standardize? In the case of the operator who has his own bulk-refueling provisions, it is not important. If the vehicles can go to the dispenser, the ASME-type tank, permanently installed within the framework of the truck, has several points in its favor, including the fact that it can be large enough to operate for a full working day without refilling. The ASME-type tank costs considerably more than the modified ICC cylinder—generally from two to five times as much, depending on size. For permanently mounted units, the factor of cost is not an insurmountable sales problem, but if the tanks must be interchanged, the need for two or three tanks per truck can become quite a sales obstacle.

More Modified Trailer-Type

The modified trailer cylinder, which has the basic advantages of low cost, and which can be changed in a few seconds by using quick couplings and a fast-acting clamp to hold it on the mount, seems to be preferable where interchanging is necessary. The majority of fleets converted to date use tanks of this type, and it seems likely that future trends will follow along the same lines. Standardization of design and mounting position should be arrived at without loss of time. Alterations in the present fleets can be made to conform to the agreed-upon standards without great difficulty, but as the number in service becomes greater the problem also increases.

Safety should be the first consideration in arriving at a standardized design. The cylinders will be transported as well as used on the trucks, and we should bear in mind that for maximum safety the filled cylinders must be kept in the same position during transportation and storage as they are when mounted on the truck. Otherwise the pressure relief valve will probably discharge liquid instead of vapor if the vehicle used for transporting cylinders is in a wreck involving fire, or if for any other reason the containers become seriously overheated.

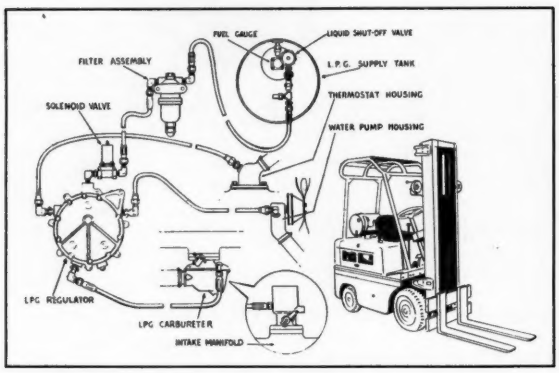
Makers of both the horizontal- and vertical-type cylinders are quick to elaborate on the real or alleged advantages of their special designs. In the interests of good business it seems important that they get together on a program of standardization which will eliminate the possibility of errors that might lead to results that would be harmful.

As happens with gasoline-powered vehicles everywhere, drivers will sometimes allow the propane-fueled industrial truck to run out of gas. (No gasoline service station is "in business" unless it has some gallon cans for the use of motorists who drive without looking at their gas gauges.) This is probably a little more likely to happen with an indoor truck in a factory or warehouse than with a vehicle on the road. The industrial-truck jockey is quite busy with the details of picking up his load, maneuvering it through the narrow aisles, and depositing it where it is to go. Understandably, he does not keep his eye glued on the fuel gauge, even though it may be mounted in plain sight.

A Red Light

A clever and inexpensive aid in this connection was recently introduced by the Parkdale Co., in the form of a red light operated by a pressure switch connected into the fuel line. The light is mounted where the driver can not fail to see it. As long as there is liquid in the tank, the pressure of the gas holds the switch in the "off" position, and the light does not come on. When the liquid is exhausted, the pressure starts to drop, although the engine is still operating on the remaining vapor in the tank. When the pressure drops to a certain degree, the light comes on and warns the driver that he has only enough fuel to run for about two minutes longer. This is generally enough to enable him to get back to his supply base and change a cylinder or refill a permanently mounted tank. If he does not do this, he is stranded, and will have to bring fuel to the truck, a procedure that takes more time, and is quite awkward if he must refill from bulk storage.

The conversion of most fork lift and industrial engines is accomplished by merely substituting the propane fuel units for the existing gasoline systems without alteration of the basic engines. It is recognized



A typical carburetion installation for a fork lift truck, showing all the fuel system units from tank to carburetor.

Use of cylinder filling manifold saves time in recharging fuel tanks, which are transported in same position as used.

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that raising the engine compression and taking the heat off the intake manifold will give some improvement in performance and will lower the fuel consumption, but these extra steps are not often taken except in the case of larger industrial power units where fuel consumption is a more important part of the total operating cost.

Most of the smaller engines in these fork lift and industrial trucks will give satisfactory performance and economy close to that of gasoline as far as gallons of fuel consumed is concerned, without engine changes. (For complete discussion of the advantages and methods of raising compression and cooling intake manifolds, see the "Butane-Propane Power Manual" published by BUTANE-PROPANE *News*.)

Approved Tank

The fuel tank must be of an approved type built either to ASME, ASME-API, or ICC specifications. The selection of one or the other types should be made after consideration of the means of refueling. If the ASME-type tank is to be used, the fuel line connecting it with the other fuel units can be a simple copper tube attached by means of flared-type, copper-tube fittings. If interchangeable type tanks are selected, it will be necessary to provide a substantial means of mounting these tanks on the truck units and providing a satisfactory quick detachable clamp.

The fuel line will need to include a section of flexible tubing with quick couplers on at least one end. These couplers should be designed with check valves at both ends of the connection so the coupling may be separated without loss of fuel either from the tank or backwards from the regulator. With these quick detachable features it is possible to change fuel tanks in as little as 15 seconds.

The use of a filter in the fuel line is good operating insurance against shutdowns due to the passage of rust and pipe scale through the fuel line.

Electric Fuel Lock

All LPG carburetion manufacturers recommend, and most insurance companies insist on, the use of an electrically-operated fuel valve in the line ahead of the regulator. These electric fuel locks are built so the valve is closed when the electrical circuit is not on. They are interconnected with the ignition circuit so that when the ignition switch is closed, the fuel valve is also closed and vice versa. Thus the fuel cannot flow to the regulator unless the ignition switch is on.

The fuel pressure to the carburetor must be reduced from the pressure existing in the tank to approximately atmospheric. This is done with a two-stage regulator which is ordinarily built in combination with a water-heated vaporizer to overcome the chilling effect set up by the vaporization of the fuel. While it might be possible in some cases to operate satisfactorily on fuel vaporized in the tank, this is not ordinarily done, as the vaporizing capacity of these small tanks is rather limited and there are definite disadvantages to operating on lean mixtures caused by inadequate vaporization of fuel. The slight additional cost of the vaporizing type regulator, which is capable of producing any amount of fuel that the engine may consume, is more than offset by the assurance that the engine will

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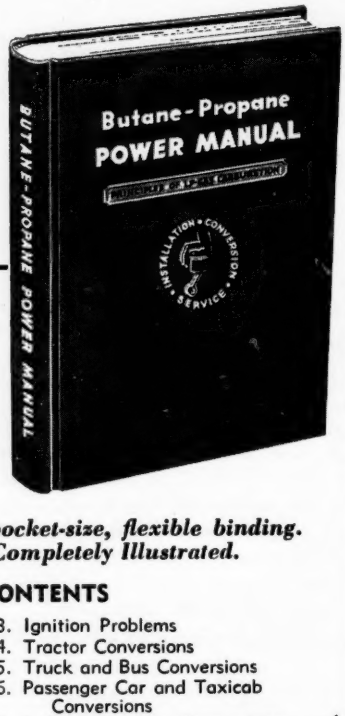

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have ample fuel for proper carburetor mixtures at all times.

Fork lifts operating with the hot water vaporizer system are in regular use in the cold-storage rooms at temperatures below zero. This could not possibly be accomplished with a vapor fuel system.

Three Carburetion Methods

Three different methods of carburetion are offered by the various manufacturers producing the LPG-carburetion equipment: (1) The spud-in type consists of a small tube inserted through the wall of the gasoline carburetor which is combined with an adjustable means of regulating the flow of fuel vapor. The position of the terminus of this spud-in tube is rather critical. It must be in the correct position in relation to the carburetor venturi or the metering will not be accurate throughout the speed range of the engine. This is the least expensive form of carburetion installation.

(2) The adapter type. This consists basically of an adapter ring which is installed between the throat of the carburetor and the tube connecting to the air filter. The vaporized fuel is introduced through this ring, and control of speed and power is accomplished by the throttle of the gasoline carburetor. In certain makes of adapter carburetors a second insert, which consists of a plate mounted between the carburetor and the manifold, is used to operate the idling system. The majority of the fork lift and industrial truck conversions made to date consist of adapter-type carburetors. This is a medium-cost method.

(3) A complete specialized L. P. gas carburetor substituted for the gasoline carburetor originally on the engine. The cost of these special L. P. gas carburetors is slightly higher than the other types. The manufacturers advance claims of certain advantages to justify the increased cost.

Equipment Available

All of the manufacturers of LPG carburetion equipment have models available which are suitable for conversion of the engines in standard fork lift and industrial trucks. Each has his own story to tell regarding the advantages of his own product.

It is important to the factory or warehouse operator that properly qualified assistance and guidance shall be available for the installation of the conversion equipment. The conversion is not difficult nor is it unduly time consuming. Depending on type of equipment used and complications in mounting the various units, the conversion time would range between two and eight hours.

Any competent gasoline-engine mechanic can make the conversion after he understands the procedures and principles involved. Many fleet operators' mechanics have been able to convert the balance of the fleet after working under the instruction of the carburetor engineer on the first two or three installations.

The safety precautions involved in these installations are simple, but their observance is extremely important. Properly installed, the LPG-fuel system is safer than a gasoline system, but it cannot be made that way by accident. The mechanic doing the installation must understand what he is doing. It is the job of the carburetor-installation engineer to properly instruct the mechanic and make sure that he understands all of the details involved. ■

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Our products are giving dependable, lasting service in hundreds of installations all over the country.
Liquefied Petroleum Gas makes the best engine fuel science has produced. More and more companies are converting. Our mail is flooded with inquiries in response to our national advertising program and we need competent dealers to handle installations and servicing.

If you understand gasoline engines you can install BEAM equipment. If you have proper facilities, a good reputation and satisfactory credit references, we can offer you an interesting and profitable dealership with mail inquiries referred back to you.
Please address your correspondence to:

L. C. ZONKER, General Manager

and provide full information which we will treat in strict confidence.

Beam Products are Nationally Advertised

THE PARKDALE COMPANY

Best Buy

BUTANE-PROPANE CARBURETION

3040 ROSSLYN ST. LOS ANGELES 65, CALIF.

REGULATORS CARBURETORS · SOLENOID VALVES

Mississippi Cotton Plantations Save Cost of LPG Conversion During First Year

By W. M. Massey

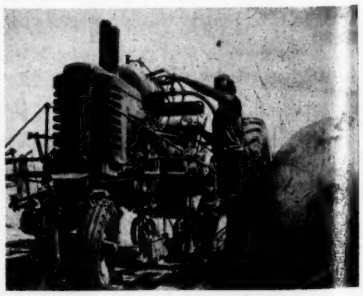
THREE cotton gins in the little town of Flora, Miss., (pop. 700) ginned 15,575 bales in the fall of 1953, which was more than in any other year of the long history of this cotton growing center.

It is significant that this record crop of cotton was produced at less cost than in recent years because of the larger number of farm tractors using liquefied petroleum gas and operating at less cost than they formerly did on gasoline. With acreage allotments for cotton further reduced, the importance of lower production costs along with higher yields took on a renewed emphasis and saw more tractors converted to LPG than ever before in any one year. Even many one-tractor farms joined the trend to use L. P. gas.

Outstanding among the plantations converting tractors to L. P. gas in the central Mississippi area were those of the R. F. Simpson operations, where five plantations around Flora are devoted to cotton and cattle under one management and one owner.

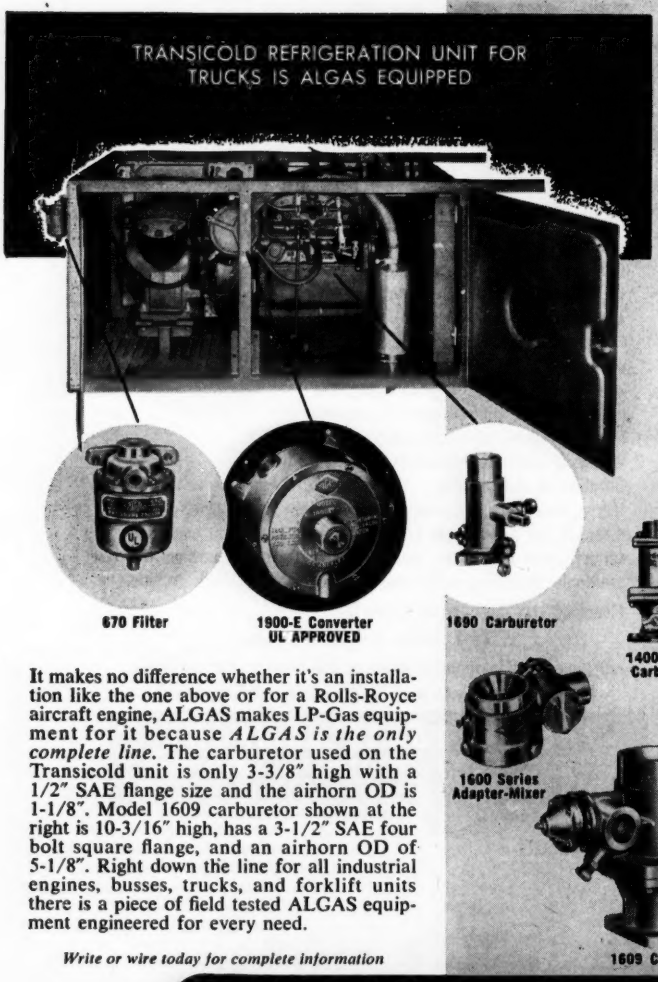
Mr. Simpson's experience with L. P. gas began eight years ago, when he installed a 3000-gal. tank to supply fuel for the MM engine running the gin, and for operation of the dryer through which the freshly picked cotton must pass to bring it down to the correct moisture content for efficient ginning. The very satisfactory results of using propane in the ginning engine led him to experiment with the conversion of tractor engines.

With the conversion of 11 farm tractors everything on the farm production end is now L. P. gas operated except the few remaining mules. All the tractors were converted before the start of the spring season and included five Farmalls, three Fergusons and one each of Ford, John Deere and Minneapolis Moline tractors. Later the MM was sold and replaced with a new Farmall Super M, factory-equipped for LPG.



A tractor is fueled at one of the five 500-gal. capacity tanks on the Simpson plantations in Mississippi.

YOU NAME IT! ALGAS LP-Gas equipment will do it!



It makes no difference whether it's an installation like the one above or for a Rolls-Royce aircraft engine, ALGAS makes LP-Gas equipment for it because *ALGAS is the only complete line.* The carburetor used on the Transicold unit is only 3-3/8" high with a 1/2" SAE flange size and the airhorn OD is 1-1/8". Model 1609 carburetor shown at the right is 10-3/16" high, has a 3-1/2" SAE four bolt square flange, and an airhorn OD of 5-1/8". Right down the line for all industrial engines, busses, trucks, and forklift units there is a piece of field tested ALGAS equipment engineered for every need.

Write or wire today for complete information

AMERICAN LIQUID GAS CORPORATION
1109 Santa Fe Avenue • Los Angeles 21, California

Farm tractors using L. P. gas, and consequently operating at less cost than they formerly did with gasoline, have enabled the Simpson operations in Mississippi to produce larger cotton yields on reduced acreage allotments.

John Bates, mechanic in charge of the central shop for the five plantations owned by R. F. Simpson, made the conversions in the shop of Moulden Supply Co. at Jackson. One by one he trucked the tractors to the Moulden shop where work was done under supervision of highly trained mechanics.

After working with Moulden Supply Co. mechanics on the first two tractors, Mr. Bates completed the other nine with occasional supervision and consultation with the shop foreman, R. K. Lackey. The cost was kept down to an average of $225 per tractor, including Mr. Bates' salary. He used 24- and 36-gal. tanks custom made for the specific tractors.

The compression ratio was checked but engines were not overhauled as the tractors were all in good general condition. "With new pistons designed for butane-propane we could have stepped up power," says Mr. Bates, "but this was of minor importance as our tractors do a variety of jobs with very little heavy work where power is a factor. Much of the time the tractors operate at slow engine speed and considerable operation is at part throttle where L. P. gas has particular advantages over gasoline. We like the quick, easy starts that we are getting after conversion, and no warm-up is necessary. We just crank up and go to work."

The fuel supply for the tractors on the plantations is handled by a 500-gal. capacity storage tank on each of the five separate farms. The tractors fuel up before starting to work each morning and, as the drivers bring them in at lunch time, they are refueled before going out again, thus avoiding any possibility of running out of fuel in the fields.

By cotton chopping time—another job that the tractors do—Mr. Bates gave his emphatic approval of the conversion when he stated, "I'll take L. P. gas two to one over gasoline."

Since farm records are kept on an

P. E. Simpson plantations in Flora, Miss., use a 3000-gal. capacity tank for operation of the cotton gin engine and cotton dryer.

ANOTHER WESTERN TANK first

AGAIN IN 1955 YOU CAN LOOK TO WESTERN FOR NEW IDEAS THAT MEAN HIGHER PROFITS FOR YOU!

Now being tested in the field, are new tractor and motor fuel designs developed by Western to match the needs of your customers.

Because Western manufactures only motor fuel and tractor tanks, you can expect new FIRSTS IN THE INDUSTRY by Western to match such previous developments as (1) tractor tanks in color; (2) tanks of factory design; and (3) greater capacity of standard tanks.

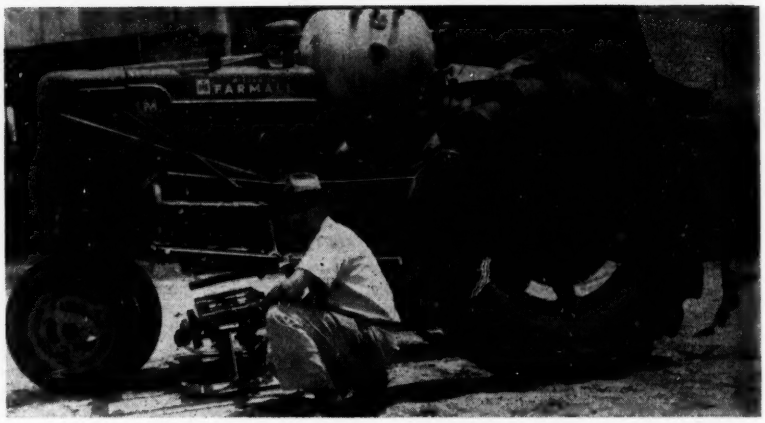
Western TANK AND STEEL CORP.

POrter 5-9474 Box 1013 Lubbock, Texas

annual basis, no breakdown on comparative costs will be possible until the end of the year but on the basis of fuel costs, trouble free maintenance and other savings, Mr. Bates believes the cost of conversion will be more than offset the first year. He quotes the following factors to back up this belief:

1. Fuel costs 11½ cents per gallon, which cuts the bill about in half as compared with cost of gasoline. Based on average consumption of over 2000 gal. per tractor, this saving should go above $200 per tractor.

2. Oil changes have been set for midsummer and at the end of farming season in winter, although this may be rescheduled to annual change if laboratory tests show it advisable This compares with an average of 12 changes a year when using gasoline.



Mechanic John Bates prepares to hook a cotton chopper on a tractor he converted to L. P. gas. Tank has 36-gal. capacity. Everything on the farm production end of the Simpson plantations uses L. P. gas.

3. With oil and gasoline removed from the five separate plantations a considerable saving is expected in eliminating pilferage.

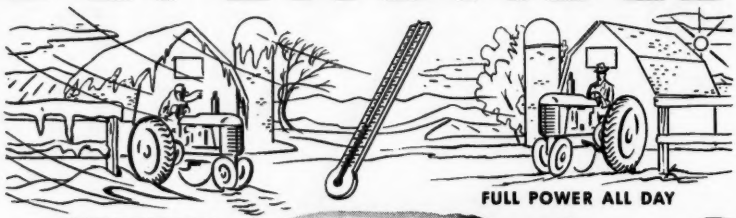
4. Engine repairs are expected to be cut in half, which would be a saving of at least $35 per tractor when compared with the tractor industry figures of $75 per unit on gasoline.

5. Keeping the tractors on the job by eliminating repairs and breakdowns is expected to save the cost of an extra tractor that would be needed to make up for the lost time when units are out for repairs at peak work periods.

"Since LPG is a dry fuel," Mr. Bates says, "we can count on much less crankcase dilution, sludge and carbon deposits. The engines stay like new inside, with clean heads, pistons and rings. This means less wear on walls, bearings and valves, which adds up to less depreciation or longer life that only several years operation can accurately appraise."

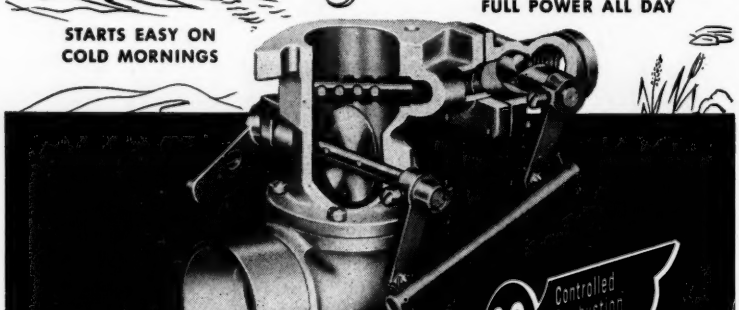
Both Moulden Supply Co. and Dockery Transport & Distributors of Jackson, who supply fuel for the Simpson operations, agree that good reliable equipment plus top mechanical service are the most needed factors in the field of tractor conversion. "Put them in right and sell the gas and you do not have to bother with service," says Supt. Lackey at Moulden. ■

DEPENDABLE



STARTS EASY ON COLD MORNINGS

FULL POWER ALL DAY



CENTURY LP-GAS CARBURETORS

WITH Years ahead METERING VALVE SYSTEM

UL

STARTS INSTANTLY *upon installation.*
GIVES INSTANT POWER—*no choking or fluttering.*
IDLES PERFECTLY.
BALANCES POWER *of each cylinder.*
NO MULTIPLE ADJUSTMENTS—*tune up only.*
PERFORMS AT ALL *speeds to pre-set perfection.*

Easy Starting! Perfect Idling! Economy!

CENTURY GAS EQUIPMENT CO. 11188 Long Beach Blvd., Lynwood, Calif.

A group of European businessmen studies the L. P. gas conversion of one of the cars belonging to KLM Royal Dutch Airways in the Netherlands.

Royal Dutch Airlines Installs LPG Tank

L. P. gas is now being used as a motor fuel in Amsteveleen, Holland. KLM Royal Dutch Airlines has installed a 5000-gal. LPG storage tank and converted its ground equipment to L. P. gas. KLM's activities have stimulated much interest in the LPG field in Europe.

According to J. J. Tjerkstra, chief engineer for KLM, performance with LPG has been very satisfactory. One of the first Chevrolets converted has run more than 90,000 kilometers, with the engine operating on the original spark plugs.

The installation and conversion to LPG by KLM came about through a trip by Mr. Tjerkstra to the United States, where he visited American Liquid Gas Corp. in Los Angeles. Mr. Tjerkstra, upon returning to Holland, recommended that KLM convert its ground equipment to L. P. gas. American Liquid Gas supplied the conversion equipment.

Export-Import Bank Authorizes MM Credit

The Export-Import bank of Washington, D. C., has authorized a line of credit to Minneapolis-Moline Co. of $2.5 million according to P. W. Mortimer, export manager of the farm machinery manufacturing firm.

"Our problem has not been to sell Minneapolis-Moline farm machinery abroad," says Mr. Mortimer, "but to

Correction

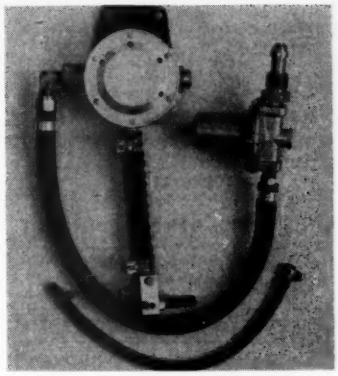
Sevier Valley Gas & Appliance Co. is located in Richfield, Utah, instead of Richfield, Nev., as it appeared on page 143 of November BPN.

The J & S Propane Vapor Kit, your BEST BUY for

CONVERTING SMALL TRACTORS AND STATIONARY ENGINES.

CONSISTS OF:

- J&S Model 344 Regulator with Bracket
- Fisher 67 Regulator
- POL Connector
- #0 Adjusting Block with Spud-In Nipples
- 18 Inches 5/8" Vapor Hose
- 4 Feet High Pressure Hose Assembly



MODEL 344-VK Vapor Kit
List Price $39.50 Complete
Discount Schedule on Request

NOTE: For use only with Donaldson type heavy duty air cleaner.

J.&S. CARBURETOR COMPANY
P.O. BOX 10391 DALLAS, TEXAS
"TWENTY YEARS IN GAS CARBURETION"

AMERICAN *Better-Bilt* Motor Fuel and Tractor Tanks

33 - WATER - GALLON TRACTOR - TAILORED AMERICAN TANK ON FARMALL "M" — Mounted Under Steering Shaft

The Industry's Finest Design and Construction! Complete with Brackets, Ready to Mount!

For carefree service be sure to install AMERICAN *"Better-Bilt"* TANKS on all LP tractor and truck conversion jobs. AMERICAN LP motor-fuel tanks are built in sizes from 10 to 30 inches in diameter. AMERICAN *"Better-Bilt"* tractor-tailored tanks replace gasoline tanks and are available for most popular makes of tractors; complete with mounting brackets.

Be sure to visit us when in Dallas

American TANK & MFG. CO.

DALLAS, TEXAS—2136 W. Commerce • P. O. Box 5525 • Phone ST. 4916
JACKSON, MISS—P. O. Box 2563 • Phone 3-8726
LITTLEFIELD, TEXAS—306 N. Ripley • P. O. Box 341 • Phone 228M

LPG Motor Fuel Tanks • Tractor Tanks • Cylinders • Domestic Tanks • Delivery Trucks and Transports

BPN CLASSIFIED Advertising

All Classified Advertising payable with order. Copy must reach publisher's office prior to the fifth of the month preceding publication. Address: Classified Advertising Material, BUTANE-PROPANE News, 198 S. Alvarado Street, Los Angeles 57, Calif.

DISPLAY CLASSIFIED

$12.00 a column inch per issue. Choice of 18, 14, 12, 10 pt display type for headlines. Set with 1 pt border. Maximum ad size 3". No cuts permitted. Publisher will set ad for maximum effect in space purchased.

UNDISPLAYED CLASSIFIED 15¢ a word. Set in 7 pt type without border. $3.00 minimum charge per insertion. If Blind Box number care of B-P News is used, count as five words.

MAILING LISTS

MAILING LISTS OF LPG DEALERS; Marketers and Jobbers; Fuel Oil Dealers, etc. Write: Oil Industry Mailing List Co., 405 Tuloma Bldg., Tulsa, Okla.

BUSINESS OPPORTUNITIES OFFERED

$6000 CASH BUYS SMALL PROPANE Business. Includes 300 gal. tank-truck, tanks in service, etc. Expansion possibilities unlimited. Located 35 miles north of Los Angeles. Ideal for man and wife. Box 1147, Newhall, Calif.

FOR SALE—IN COLORADO—MODERN, Well Equipped Bulk Plant—Plenty of Business — Retiring from Business. Write Box 25, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

FOR SALE—GOOD BULK AND BOTTLE gas business in southwest Missouri, county seat, good farming territory, equipment A-1 condition. Twenty-one thousand gallon storage. Reasonable price. LP GAS SALES & SERVICE, Lamar, Missouri.

LPG BULK PLANTS. WE SPECIALIZE IN petroleum properties throughout Midwest. Have number desirable plants for sale. Additional properties needed. PETROLEUM MARKETERS, 605 Produce Bank Bldg., Minneapolis, Minnesota.

BUSINESS OPPORTUNITIES WANTED

NATIONAL SALES MANAGER, GAS appliances, under 45, tired of traveling, desires to learn L. P. gas business. Florida location preferred, but will consider Southeastern United States. A substantial investment will be considered if necessary. Box 315, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, California.

SELL MORE with Display Classified Ads

This is an example of the attention getting type faces available in display ads in the BPN Classified Section. Cost is only $12.00 a column inch per issue, an ad this size (3") is $36.00. The large lines above are set in 18 pt. Other available sizes are shown below.

14 POINT DISPLAY
12 POINT DISPLAY
10 POINT DISPLAY

Body type is set in 7 pt like this sample. An average of 7 words to the line.

WANTED — MISCELLANEOUS

WANTED: FIVE THOUSAND TO EIGHT thousand gallon transport tank on trailer with or without tractor (preferably without). P. O. Box 66, St. James, Minnesota.

TRUCK WANTED. WOULD LIKE TO BUY a good used propane bulk truck, complete, ready to haul, with a capacity of 1200 to 1600 gallons. Send photos, information and prices. Roy's Gas & Appliance Co., Ladysmith, Wisconsin.

WANT TO BUY MEDIUM SIZED USED bulk plant, to be moved in South Central Michigan. Must be within reasonable distance. Reply Box 325, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, California.

HELP WANTED

WANTED—MANAGER NEW ENGLAND propane-air utility and bottlegas property. Reply Box 320, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, California.

PROGRESSIVE NORTHEASTERN L. P. operation is seeking experienced salesmen for all phases of L. P. and appliance sales, including carburetion and heating. Straight salary. Write Box 310, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

WANTED
MANUFACTURER'S AGENTS

Territories now open for distribution of a complete line of L. P. gas water heaters. Experienced representatives required to call upon L. P. gas dealers and distributors. Only applicants with extensive experience will be considered. Write giving FULL details to
BOX 35
BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

HELP WANTED?

A COMPANY SEEKING A BRANCH MANAGER and a salesman got 38 replies from one ad in the classified columns of BUTANE-PROPANE News . . . THE PLACE TO ADVERTISE FOR WHAT YOU WANT.

SITUATIONS WANTED

INDIVIDUAL WITH PROVEN RECORD of accomplishment in handling full responsibility of L. P. gas operations, including sales and successful plant management, desires responsible position with progressive L. P. organization. Would consider interviews with L. P. gas suppliers or allied lines. College graduate. Now employed. Excellent references. Write Box 330, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, Calif.

FOR SALE — MISCELLANEOUS

DECALS MADE FOR TRUCKS, EQUIPment. Small or large quantities. Catalog free. Mathews Co., 827 S. Harvey, Oak Park, Ill.

LARGE QUANTITY OF USED, SOME ALmost new, Rockwell propane gas meters. Gallon and therm indicators, ½-inch size. For particulars, write: RED-E-GAS COMPANY, 9000 Watson Road, St. Louis 19, Missouri.

FOR SALE: PIPE THREAD COMPOUND. Due to a special purchase we can supply you with a quality compound at a real savings. 25# pail only $6.25. 100# or more prepaid. Cash, no C.O.D. SOUTHWEST GAS EQUIPMENT, Liberal, Kansas.

FOR SALE—IMMEDIATE DELIVERY! Eureka Smokehouse Burner Assemblies! For meat smoke houses using bottled gas. Completely automatic. Clean filtered smoke. Distributes heat uniformly. Low gas consumption. Automatic temperature and pilot control. Less product shrinkage. Easily installed. Write for descriptive pamphlet. Eureka Equipment Company, P. O. Box 396, Beloit, Wisconsin.

FOR SALE—BAKER HYDRAULIC ALCOhol pumps for injecting alcohol into propane-butane cylinders—against pressure. Only pump of its kind. Chosen by leading LP-Gas servicemen throughout the world. Sure cure for moisture trouble. Cost so little, saves so much service. Equip every truck with one. Send check or money order (No C.O.D.) for $44.95 to Baker Engineering, Malone, N. Y.

WHATEVER IT IS
YOU HAVE FOR SALE, WANT TO BUY OR TRADE OR FIND — you can do it quickly, easily, with a B-P News classified ad.

SERVEL Gas Refrigerators
Used, in perfect operating condition, Clean, attractive, complete.

L400	4 cu. ft. at	$18
R400A	4 cu. ft.	$23
S400A	4 cu. ft.	$30
S600A	6 cu. ft.	$42

Wholesale Quantities Only
Low Delivery Cost Anywhere

Other models available. Send for illustrated folder NOW and be ready for your Spring selling season.

BEACH REFRIGERATOR CO.
196-11 Northern Blvd., Flushing 58, N. Y.
Phone FLushing 7-6161

CLASSIFIED ADVERTISING

FOR SALE — TRUCKS - TRAILERS

FOR SALE: 4,500 GAL. PROPANE TWIN Transport, 10.00 tires, tandem, air brakes, excellent condition. $4,000. Vincent Elliott, Box 1, Vinita, Okla. Ph. 1263.

TRINITY'S NEW EXCLUSIVE MODEL #106 with sectional skirting - 1700 WG capacity W-250 - ICC MC-330 complete with pump, printometer, remote Okadee valves, clutch, power take-off and throttle. Completely installed on new factory LPG powered RP-162 International chassis. Immediate delivery, $5,100.00 F.O.B. Trinity Steel Co., Inc., 3301 S. Lamar St., HUnter 8321, Dallas, Texas.

BUYING YOUR FIRST DELIVERY truck tank? Get the facts on Trinity's New Model #104 Twin 1400 WG capacity 250# WP complete with pump, printometer, hose, plumbing, etc., installed on new 1954 135 HP Chevrolet chassis—ready to haul gas today—$4,300.00 F.O.B. Trinity Steel Co., Inc., 3301 S. Lamar St., HUnter 8321, Dallas, Texas.

NEW: IMMEDIATE DELIVERY, 1400 WG U69 propane extra lightweight twin barrel delivery unit. Mounted on new 1955 2-ton, 2-speed Chevrolet truck with big engine. Fill and vapor hose assemblies—Viking Mechanical Seal Pump —Power take-off assembly and motor fuel tank. READY TO GO FOR $3970.00 tax paid. Also available at low extra cost: meters, fire extinguisher and L. P. carburetion. American Tank & Manufacturing Co., 2136 West Commerce Street, Dallas, Texas. P. O. Box 5525. Telephone Sterling 4916.

FOR SALE: 2 TWIN-BARREL PROPANE transport units both legal and in daily use. One tandem 5,100 gallon water capacity $4,000.00. One single axle 4,000 gallon water capacity $2,500.00. Lowry Tims Company, Cleveland, Miss.

TWO—5100 GALLON U69 TWIN BARREL, Tandem axle Propane transports, 10.00x20 tires, perfect condition. $4000.00 each. Mo. Hydro Gas Co. Inc., P.O. Box 88, Springfield, Missouri. Phone 2-0717.

SPECIAL: AMERICAN "BETTER-BILT" extra lightweight 1500 water gallon U69 propane twin barrel delivery unit, with Viking Mechanical Seal Pump—Neptune Print-O-Meter—fill and vapor hose assembly—mounted on new 1955 2-ton, 2-speed GMC chassis with 8.25 tires —READY FOR SERVICE. PRICED AT $4475.00 tax paid FOB Dallas. Other sizes available at comparable low cost. American Tank & Manufacturing Co., 2136 W. Commerce Street, Dallas, Texas. P. O. Box 5525. Telephone Sterling 4916.

FOR THE BIG HAUL . . . NEW 1800 WG U-69 NOR-TEX twin delivery unit. Equipped for service with trim skirting, 50-gallon recessed fuel tank, ICC lights, Viking mechanical seal pump, P.T.O. and splines jack shaft. Mounted on brand new factory LPG powered International RP-172 chassis with the big 282 LPG engine. 5th overdrive transmission, two speed axle, 9:00 tires all around, heavy duty rear springs. All ready to start delivering gas for only $5,125.00, including taxes, F.O.B. Denton. Call NOR-TEX PRODUCTS COMPANY collect, C-5416, Denton, Texas.

REAL SAVINGS ON COMPLETE PACKAGE UNIT FOR IMMEDIATE DELIVERY. 1400 WG U-69 twin delivery unit with trim skirting, mounted on new 1954 factory LPG powered International, RP-162 chassis. Two speed axle, 50-gallon recessed fuel tank, P.T.O., splines jack shaft, Viking mechanical seal pump, 50' filler hose and ICC lights. Painted gleaming aluminum over red oxide. Ready to start making you money for only $4,085.00, including taxes, F.O.B. Denton. Meters, fire extinguisher and cabineting available at low extra cost. Call NOR-TEX PRODUCTS COMPANY collect, C-5416, Denton, Texas.

BUSINESS RECORD FORMS

KRAFTBILT BUSINESS RECORDS increase your profits—improve your credit—help boost sales. That's why KRAFTBILT LP-Gas Forms are used by more LP-Gas dealers than any others. Simplify your office work—use KRAFTBILT simplified forms. Approved by your Association. Highly recommended by outstanding LP-Gas suppliers. Don't wait! Send postcard now for LP-Gas Forms Catalog. ROSS-MARTIN CO., P.O. Box 800-S, TULSA 1, OKLA.

FOR SALE — TANKS - CYLINDERS

FOR THE BEST TRUCK TANKS—STORAGE TANKS—DOMESTIC TANKS—Call or write Master Tank & Welding, P.O. Box 5146, Prospect 2441, Dallas, Texas.

FOR SALE—1200 SINGLE BARREL PROpane (used). $800.00. SOUTHWEST GAS EQUIPMENT CO., Liberal, Kansas.

FOR THE BEST TRUCK TANKS—STORAGE TANKS—DOMESTIC TANKS—Call or write Master Tank & Welding, P.O. Box 5146, Prospect 2441, Dallas, Texas.

FOR SALE—1,000 GALLON TWIN TRUCK tank mounted on your truck. $825.00. These tanks can be shipped by regular truck or rail freight. SOUTHWEST GAS EQUIPMENT CO., Liberal, Kansas.

FOR THE BEST TRUCK TANKS—STORAGE TANKS—DOMESTIC TANKS—Call or write Master Tank & Welding, P.O. Box 5146, Prospect 2441, Dallas, Texas.

PROFESSIONAL SERVICES

ASSURE MORE PROFITS BY METHODS developed over 26 years. Property appraisals. Revised sales plans. Floyd F. Campbell, Management Counselor, 821 Crofton Ave., Webster Groves, Missouri.

INDIVIDUALLY DESIGNED
Ammonia and LP Gas Plants
H. Emerson Thomas
& Assoc., Inc.
Westfield, N. J.

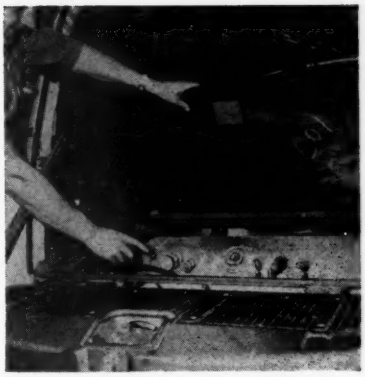
LP-Gas Consultants
Call us before you buy or sell
Gas Service Corp.
13090 N. W. 7th Ave. Miami 50, Fla.
Phone MUrray 1-4638

INSURANCE

L. P. GAS
INSURANCE

Have your agent write us about our Complete and Comprehensive Coverage for Adequate Limits of Liability at Reasonable and Normal Rates with Specialized Safety Engineering and Claim Service. Available only in Alabama, Arkansas, Arizona, Georgia, Kansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas.

PAN AMERICAN FIRE & CASUALTY COMPANY
T. E. Gammage, Sr., Pres.
P.O. Box 1662 Houston, Texas



When Ralph Weaver of Weaver Butane Service, San Jose, Calif., converted his station wagon to operate on propane, he wanted all of the space in body to be available for transporting merchandise and people. To accomplish this he cut a trap door through the floor in the rear for the 23-gal. wc propane tank. With the 45° horizontal mounting of the fittings, everything is safe and convenient.

meet the competition in credit terms offered by most foreign manufacturers. Our American-made equipment is eagerly sought but American manufactures have been unable to allow long-term credits until now."

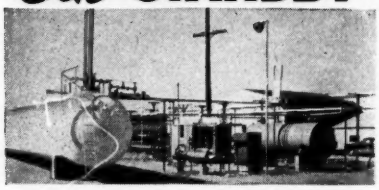
Power Tip—Lubricants

Ordinary lubricants give very short life in carburetors because of the suction imposed by the manifold vacuum, which tends to draw the oil out of the joints. A lubricant which offers considerably greater durability in "lubriplate," which may be obtained in almost any automotive supply store in either tubes or cans.

A lubricant of this type is particularly valuable in assuring proper functioning of closely fitted LPG carburetor parts subject to more or less continuous movement, such as the fuel valve in the Century 3-C carburetor and the plunger type economizers used in a number of other makes.

The lubricant should be applied in a very thin coating, taking care that there are no accumulations of the material left in any slots, grooves or holes that are necessary for the passage of gas. Scrupulous cleanliness is necessary to prevent carrying dust particles, grit, or any other solid foreign matter into the working parts of the carburetor. It is not necessary to lubricate the stationary part of the joint; sufficient lubricant will be transferred from the moving part to insure proper functioning.

GAS STANDBY



Packaged 12 mcfh plant designed and built by Draketown for...

- ★ Utility or Industrial standby
- ★ Peak shaving and augmentation
- ★ 100% Town or plant supply

A Packaged Draketown Propane Plant will help you reduce demand charges; provide a supply of gas during curtailment periods... at the turn of a valve... or supply that outlying section or plant 100% if desired.

DRAKETOWN ®

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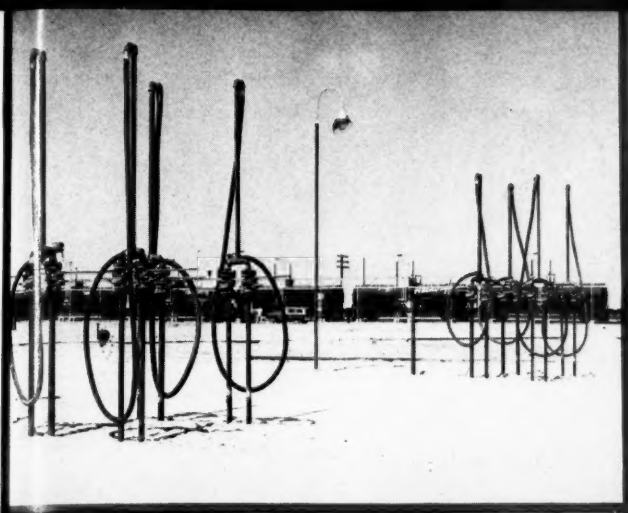

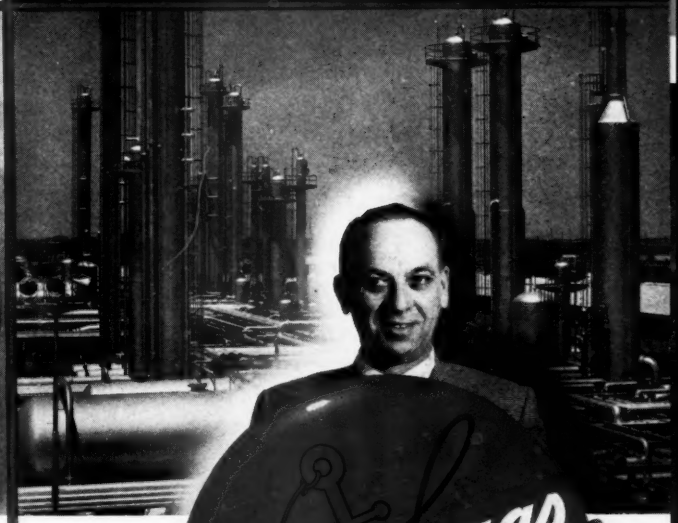

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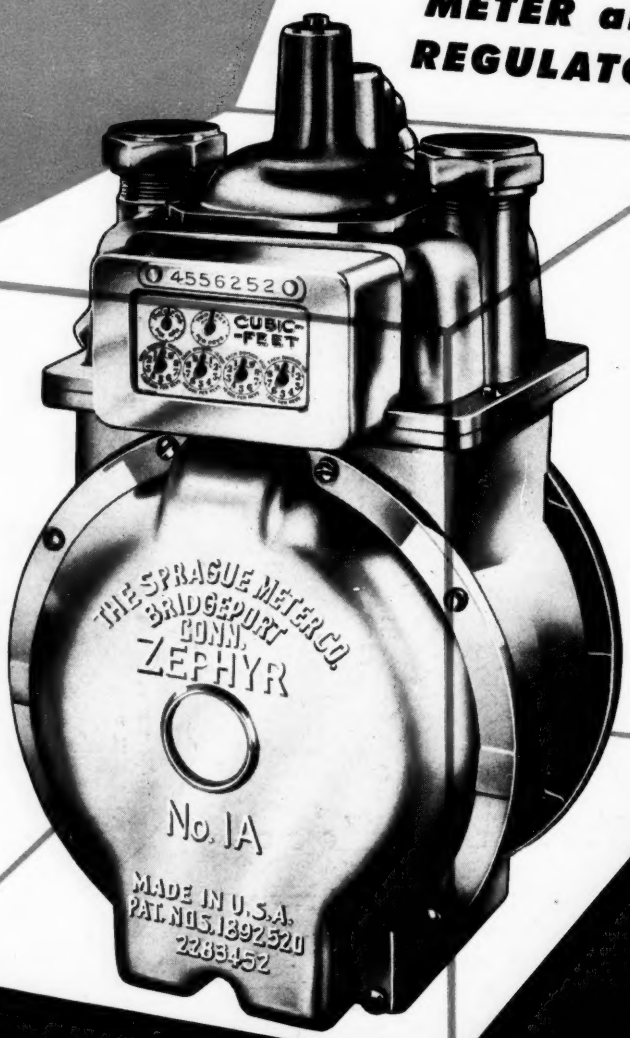

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